United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with United States Department of the Interior,

Bureau of Land Management,

Bureau of Indian Affairs,

National Park Service

and the Arizona Agricultural Experiment Station

Soil Survey of Mohave County, Arizona,

Southern Part

How To Use This Soil Survey

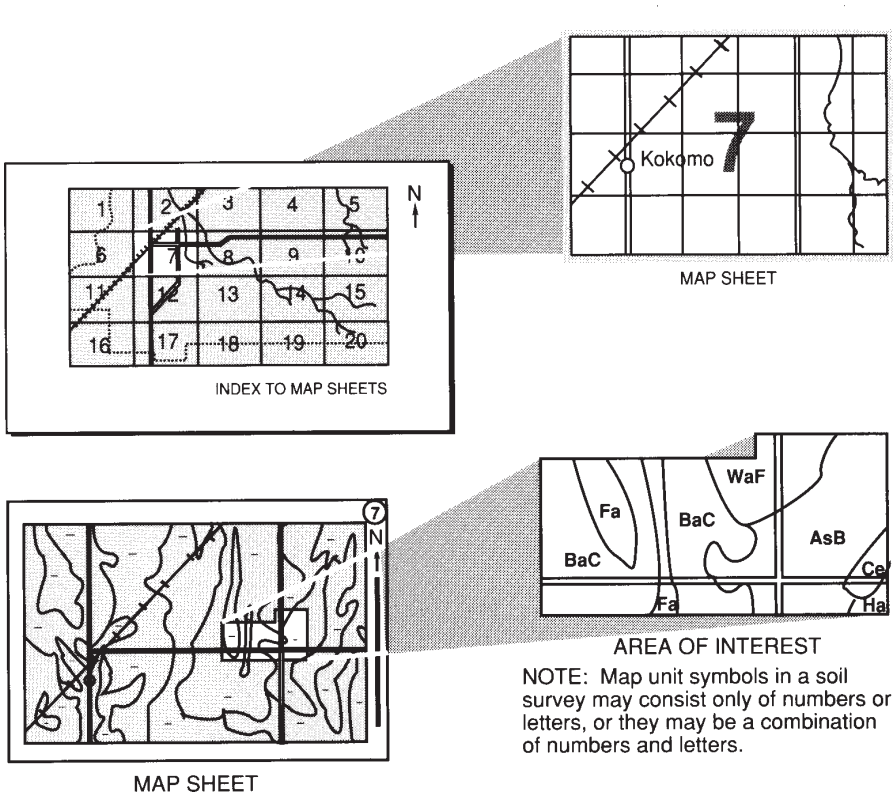
Detailed Soil Maps

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

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

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

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



This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1996. Soil names and descriptions were approved in 2005. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1996. This survey was made cooperatively by the Natural Resources Conservation Service, the Bureau of Land Management, the National Park Service, the Bureau of Indian Affairs, and the Arizona Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Big Sandy Natural Resources Conservation District.

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Cover: Romero, Chiricahua, and Lampshire soils in the Arroweed Canyon area, Mohave County, Arizona. (Photo courtesy of the Bureau of Land Management, Kingman Field Office.)

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Issued 2006

Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations and the impact of selected land uses on the environment.

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

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

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

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

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Soil Survey of Mohave County, Arizona, Southern Part

By Richard K. Strait, Natural Resources Conservation Service

Fieldwork by Wendell Jorgensen and Russell L. Barmore, Natural Resources Conservation Service, and Paul Hobbs, Bureau of Land Management.

This survey was made cooperatively by the Natural Resources Conservation Service, the Bureau of Land Management, the Bureau of Indian Affairs, the National Park Service, and the Arizona Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Big Sandy Natural Resources Conservation District.

General Nature of the Area

Mohave County, Southern Part, is located in the southern portion of Mohave County, Arizona. Lake Havasu City, the largest city in the survey area, had a population of 41,938 in 2000. The survey area encompasses about 3,894 square miles or 2,492,300 acres. Dominant land types include rangeland, recreation, urban land, farmland, and woodland.

Physiographically, the survey area consists of six main mountain ranges and two broad valleys. The Hualapai mountain range, the largest in the area, lies in the center of the survey area. The Black Mountains and the Mohave Mountains separate the Colorado River drainage and the Mohave Valley from the Sacramento Valley. The Arrastra Mountains and the Rawhide Mountains are located in the southern portion of the area along the Bill Williams and the Santa Maria rivers. The Aquarius Mountains lie in the eastern portion of the area.

Soils in the mountains formed primarily from alluvium, colluvium, and residuum from igneous and metamorphic rocks. Valley soils formed from mixed alluvium washed down from the mountains. Wind and water erosion is a major concern in the area. Erosion can damage areas such as paths and trails, construction areas, and areas where vegetative cover has been lost. Soils that have accumulations of salts and sodium are also a concern in farmland areas.

Major Land Resource Areas within the survey area include the Mohave Desert Basin and Range, the Sonoran Basin and Range, and the Mogollon Transition. The northern portion of the survey area falls into the Mohave Desert Basin and Range, and the southern part is in the Sonoran Basin and Range. The Mogollon Transition is restricted to the Hualapai and Aquarius Mountains (USDA, 1981).

Elevations of the survey area range from about 400 to about 8,000 feet above mean sea level. Mean annual precipitation ranges from about 3 inches in the lower elevations of the Mohave Desert and Sonoran Desert to about 20 inches in the higher elevations of the Hualapai Mountains. Mean annual air temperature ranges from about 48 degrees Fahrenheit in the higher mountains to 78 degrees Fahrenheit in the low deserts.

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. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

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

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

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

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

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, roads, and rivers, all of which help in locating boundaries accurately.

Detailed Soil Map Units

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

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Tyro very stony loam, 2 to 10 percent slopes, is a phase of the Tyro series.

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

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Goldroad-Rock outcrop complex, 20 to 60 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the

survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Riverwash-Fluvaquents association, 0 to 3 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Rositas family, Superstition and Torriorthents soils, 1 to 60 percent slopes, is an undifferentiated group in this survey area.

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

Table 1 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

1—Akela-Rock outcrop-Rubble land complex, 40 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 2,100 to 4,600 feet (640 to 1,402 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Akela and similar soils: 45 percent
Rock outcrop: 20 percent
Rubble land: 20 percent
Minor components: 15 percent

Properties and Qualities

Akela soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from volcanic rock
Slope: 40 to 70 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-1AZ; Upper Sonoran Desert
Ecological site name: Basalt Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XA101AZ
Present native vegetation: littleleaf palo verde, bush muhly, big galleta, creosotebush, white brittlebush, desert globemallow, desert needlegrass, range ratany, sideoats grama, slim tridens
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; extremely cobbly loam
Bw—1 to 5 inches; extremely cobbly loam
2R—5 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Rubble land

Consists of areas of cobbles, stones, and boulders. Rubble land is commonly at the base of mountains, mesas, and escarpments.

2—Akela-Rock outcrop-Rubble land complex, dry, 40 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 2,100 to 4,600 feet (640 to 1,402 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)

Frost-free period: 200 to 250 days

Map Unit Composition

Akela and similar soils: 45 percent
Rock outcrop: 20 percent
Rubble land: 20 percent
Minor components: 15 percent

Properties and Qualities

Akela soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from volcanic rock
Slope: 40 to 70 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-2AZ; Middle Sonoran Desert
Ecological site name: Basalt Hills 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XB201AZ
Present native vegetation: white brittlebush, littleleaf palo verde, bush muhly, creosotebush, slim tridens, desert globemallow, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; extremely cobbly loam
Bw—1 to 5 inches; extremely cobbly loam
2R—5 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Rubble land

Consists of areas of cobbles, stones, and boulders. Rubble land is commonly at the base of mountains, mesas, and escarpments.

3—Alko family cobbly loam, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,800 to 3,500 feet (549 to 1,067 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Alko family and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Alko family soils

Taxonomic Classification: Loamy, mixed, superactive, thermic, shallow Typic Haplodurids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 15 percent
Depth to restrictive feature: 5 to 20 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Limy Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC311AZ
Present native vegetation: blackbrush, big galleta, bush muhly, Mojave yucca, creosotebush, goldenhead, red brome
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; cobbly loam
B—1 to 15 inches; gravelly loam
2Bqkm—15 to 31 inches; indurated
2C—31 to 60 inches; extremely gravelly sand

4—Alko family cobbly loam, dry, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,800 to 3,500 feet (549 to 1,067 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Alko family and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Alko family soils

Taxonomic Classification: Loamy, mixed, superactive, thermic, shallow Typic Haplodurids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 15 percent
Depth to restrictive feature: 5 to 20 inches to duripan
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, red brome, Mojave yucca, goldenhead
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; cobbly loam
B—1 to 15 inches; gravelly loam
2Bqkm—15 to 31 inches; indurated
2C—31 to 60 inches; extremely gravelly sand

5—Amole sandy loam, 1 to 3 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,500 to 2,700 feet (457 to 823 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Amole and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Amole soils

Taxonomic Classification: Sandy, mixed, thermic Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: very low
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-1AZ; Upper Sonoran Desert
Ecological site name: Sandy Loam Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XA118AZ
Present native vegetation: black grama, bush muhly, big galleta, burrobush, Eastern Mojave wild buckwheat, Indian ricegrass, buckhorn cholla, goldenhead, range ratany, whitestem paperflower
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; sandy loam
C1—1 to 19 inches; sandy loam
C2—19 to 60 inches; loamy coarse sand

6—Amole sandy loam, dry, 1 to 3 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,500 to 2,700 feet (457 to 823 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Amole and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Amole soils

Taxonomic Classification: Sandy, mixed, thermic Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-2AZ; Middle Sonoran Desert
Ecological site name: Sandy Loam Upland 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XB218AZ
Present native vegetation: big galleta, creosotebush, bush muhly, black grama, Indian ricegrass, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; sandy loam
C1—1 to 19 inches; sandy loam
C2—19 to 60 inches; loamy coarse sand

7—Anthony-Dudleyville complex, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains and stream terraces
Elevation: 2,200 to 3,200 feet (671 to 975 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Anthony and similar soils: 45 percent
Dudleyville and similar soils: 30 percent
Minor components: 25 percent

Properties and Qualities

Anthony soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Occasional
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-1AZ; Upper Sonoran Desert
Ecological site name: Sandy Bottom 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XA115AZ
Present native vegetation: Arizona cottontop, Mexican bladder sage, big galleta, bush muhly, catclaw acacia, western honey mesquite, fourwing saltbush, sand dropseed
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; gravelly sandy loam

C1—1 to 35 inches; gravelly coarse sandy loam
C2—35 to 60 inches; gravelly sandy loam

Dudleyville soils

Taxonomic Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Excessively drained
Permeability: Greater than 20 in/hr (very rapid)
Available water capacity total inches: 3.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Sandy Bottom 10-12" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC343AZ
Present native vegetation: Arizona cottontop, Mexican bladder sage, big galleta, bush muhly, catclaw acacia, western honey mesquite, fourwing saltbush, sand dropseed
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly loamy sand
C1—2 to 12 inches; gravelly loamy coarse sand
C—12 to 60 inches; very gravelly coarse sand

8—Aquarius-Akela-Rock outcrop complex, 1 to 25 percent slopes

Map Unit Setting

Landform: plateaus and hills
Elevation: 2,100 to 4,600 feet (640 to 1,402 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Aquarius and similar soils: 45 percent
Akela and similar soils: 30 percent
Rock outcrop: 20 percent
Minor components: 5 percent

Properties and Qualities

Aquarius soils

Taxonomic Classification: Fine, smectitic, calcareous, thermic Vertic Torriorthents
Parent Material: Alluvium and/or colluvium derived from volcanic rock
Slope: 10 to 25 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 8.6
Shrink-swell potential: About 10.0 LEP (very high)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-1AZ; Upper Sonoran Desert
Ecological site name: Clay Loam Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XA120AZ
Present native vegetation: black grama, sideoats grama, tobosa, big galleta, broom snakeweed, bush muhly, desert globemallow, false mesquite, littleleaf palo verde, range ratany, shrubby buckwheat
Land capability (nonirrigated): 7c

Typical Profile

A1—0 to 2 inches; very cobbly silt loam
A2—2 to 8 inches; silty clay loam
C1—8 to 24 inches; cobbly silty clay
C2—24 to 42 inches; silty clay
2Btkb1—42 to 50 inches; silty clay
2Btkb2—50 to 60 inches; gravelly silty clay loam

Akela soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from volcanic rock
Slope: 1 to 25 percent
Surface fragments: About 9 percent stones
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)

Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-1AZ; Upper Sonoran Desert
Ecological site name: Basalt Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XA101AZ
Present native vegetation: littleleaf palo verde, bush muhly, big galleta, creosotebush, white brittlebush, Eastern Mojave wild buckwheat, desert globemallow, desert needlegrass, range ratany, sideoats grama, slim tridens
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; extremely cobbly loam
Bw—1 to 5 inches; extremely cobbly loam
2R—5 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

9—Arizo-Franconia-Riverwash complex, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains and alluvial fans
Elevation: 2,300 to 3,900 feet (701 to 1189 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F. (15 to 18 degrees C.)
Mean annual soil temperature: 61 to 66 degrees F. (17 to 19 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Arizo and similar soils: 40 percent
Franconia and similar soils: 30 percent
Riverwash: 20 percent
Minor components: 10 percent

Properties and Qualities

Arizo soils

Taxonomic Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 2.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Frequent
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Bottom 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC317AZ
Present native vegetation: white burrobush, bush muhly, desert rabbitbrush, Anderson wolfberry, big galleta, catclaw acacia, creosotebush, desert willow, red brome, sand dropseed, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
C1—2 to 11 inches; gravelly sandy loam
C2—11 to 15 inches; sandy loam
C3—15 to 35 inches; extremely gravelly loamy sand
C4—35 to 60 inches; very gravelly loamy coarse sand

Franconia soils

Taxonomic Classification: Sandy, mixed, thermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Occasional
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Bottom 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC317AZ
Present native vegetation: white burrobush, bush muhly, desert rabbitbrush, Anderson wolfberry, big galleta, catclaw acacia, creosotebush, red brome, sand dropseed, white bursage

Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
C—2 to 33 inches; loamy sand
C3—33 to 60 inches; gravelly loamy sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

10—Arizo-Franconia-Riverwash complex, dry, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 1,500 to 3,000 feet (457 to 914 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 22 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Arizo and similar soils: 40 percent
Franconia and similar soils: 30 percent
Riverwash: 20 percent
Minor components: 10 percent

Properties and Qualities

Arizo soils

Taxonomic Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 2.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Frequent
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Sandy Wash 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB218AZ
Present native vegetation: white burrobrush, catclaw acacia, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
C1—2 to 11 inches; gravelly sandy loam
C2—11 to 15 inches; sandy loam
C3—15 to 35 inches; extremely gravelly loamy sand
C4—35 to 60 inches; very gravelly loamy coarse sand

Franconia soils

Taxonomic Classification: Sandy, mixed, thermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Occasional
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Sandy Wash 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB218AZ
Present native vegetation: white burrobrush, catclaw acacia, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
C1—2 to 18 inches; loamy sand
C2—18 to 33 inches; stratified loamy sand
C3—33 to 60 inches; gravelly loamy sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

11—Bartmus very gravelly sandy loam, 2 to 15 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 4,000 to 4,200 feet (1,219 to 1,280 meters)

Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F. (14 to 16 degrees C.)
Mean annual soil temperature: 59 to 63 degrees F. (15 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Bartmus and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Bartmus soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Haplodurids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 15 percent
Depth to restrictive feature: 5 to 18 inches to duripan; 7 to 30 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA106AZ
Present native vegetation: black grama, sideoats grama, needle and thread, birchleaf mountainmahogany, desert ceanothus, muttongrass, range ratany, slim tridens, turbinella oak, western bottlebrush grass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bt—2 to 6 inches; very gravelly sandy clay loam
2Bkqm—6 to 19 inches; indurated
3R—19 inches; unweathered bedrock

12—Bonita family very cobbly silty clay loam, 2 to 10 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 4,400 to 5,600 feet (1,341 to 1,707 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 61 degrees F. (15 to 16 degrees C.)
Mean annual soil temperature: 61 to 63 degrees F. (17 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Bonita family and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Bonita family soils

Taxonomic Classification: Fine, smectitic, thermic Typic Haplotorrerts
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 10 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 6.1
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clayey Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA102AZ
Present native vegetation: tobosa, sideoats grama, muttongrass, western bottlebrush grass, broom snakeweed, globemallow, shrubby buckwheat, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly silty clay loam
C—2 to 35 inches; clay
2Btkb—35 to 60 inches; very gravelly loam

13—Bonita family-Gonzales complex, 10 to 35 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 3,800 to 5,800 feet (1,158 to 1,768 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 61 degrees F. (15 to 16 degrees C.)
Mean annual soil temperature: 61 to 63 degrees F. (17 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Bonita family and similar soils: 60 percent
Gonzales and similar soils: 30 percent
Minor components: 10 percent

Properties and Qualities

Bonita family soils

Taxonomic Classification: Fine, smectitic, thermic Typic Haplotorrerts
Parent Material: Alluvium derived from volcanic rock
Slope: 10 to 15 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 6.1
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clayey Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA102AZ
Present native vegetation: tobosa, sideoats grama, muttongrass, western bottlebrush grass, broom snakeweed, globemallow, shrubby buckwheat, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly silty clay loam
C—2 to 35 inches; clay
2Btkb—35 to 60 inches; very gravelly loam

Gonzales soils

Taxonomic Classification: Clayey, smectitic, thermic, shallow Ustic Haplocambids
Parent Material: Alluvium derived from volcanic rock
Slope: 15 to 35 percent
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 13 to 23 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 2.2
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clayey Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA117AZ
Present native vegetation: sideoats grama, desert ceanothus, birchleaf mountainmahogany, black grama, blue grama, desert needlegrass, range ratany, shrubby buckwheat, skunkbush sumac, sugar sumac
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; very cobbly loam
Bw—1 to 14 inches; clay
2Cr—14 to 17 inches; weathered bedrock
2R—17 inches; unweathered bedrock

14—Brazito family sand, 0 to 3 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 1,500 to 1,600 feet (457 to 488 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 64 to 70 degrees F. (18 to 21 degrees C.)

Mean annual soil temperature: 66 to 72 degrees F. (20 to 23 degrees C.)
Frost-free period: 230 to 250 days

Map Unit Composition

Brazito family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Brazito family soils

Taxonomic Classification: Mixed, thermic Typic Torripsamments
Parent Material: Alluvium derived from mixed rock sources
Slope: 0 to 3 percent
Drainage class: Somewhat excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 4.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-2AZ; Middle Sonoran Desert
Ecological site name: Sandy Bottom 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XB216AZ
Present native vegetation: big galleta, bush muhly, Mexican bladder sage, shortleaf baccharis, blue palo verde, catclaw acacia, desert needlegrass, littleleaf palo verde, western honey mesquite, whitestem paperflower
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 7 inches; sand
C1—7 to 14 inches; very fine sand
C2—14 to 28 inches; fine sand
C3—28 to 60 inches; very fine sand

15—Bucklebar sandy loam, 1 to 3 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,000 to 3,300 feet (914 to 1,006 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F. (15 to 18 degrees C.)
Mean annual soil temperature: 61 to 66 degrees F. (17 to 20 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Bucklebar and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Bucklebar soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids
Parent Material: Alluvium and/or colluvium derived from metamorphic rock
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 7.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-1AZ; Upper Sonoran Desert
Ecological site name: Loamy Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XA113AZ
Present native vegetation: black grama, big galleta, bush muhly, Arizona cottontop, Eastern Mojave wild buckwheat, Joshua tree, banana yucca, broom snakeweed, creosotebush, goldenhead, plains bristlegrass, range ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 4 inches; sandy loam
Bt—4 to 37 inches; sandy clay loam
C—37 to 60 inches; coarse sandy loam

16—Cacique family extremely gravelly loam, 1 to 7 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,800 to 2,400 feet (549 to 732 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 64 to 70 degrees F. (18 to 21 degrees C.)

Mean annual soil temperature: 66 to 72 degrees F. (20 to 23 degrees C.)
Frost-free period: 230 to 250 days

Map Unit Composition

Cacique family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Cacique family soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Argic Petrocalcids
Parent Material: Alluvium and/or colluvium derived from metamorphic rock
Slope: 1 to 7 percent
Depth to restrictive feature: 20 to 40 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 4.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: High
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-2AZ; Middle Sonoran Desert
Ecological site name: Limy Upland 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XB210AZ
Present native vegetation: creosotebush, bush muhly, littleleaf palo verde, big galleta, Anderson wolfberry, Eastern Mojave wild buckwheat, black grama, sideoats grama, slim tridens
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; extremely gravelly loam
Bt—1 to 8 inches; gravelly sandy clay loam
Btk—8 to 35 inches; gravelly clay loam
2Bkm—35 to 60 inches; indurated

17—Castaneda extremely gravelly loam, 1 to 7 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,600 to 4,000 feet (488 to 1,219 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Castaneda and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Castaneda soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Argic Petrocalcids
Parent Material: Alluvium and/or colluvium derived from metamorphic rock
Slope: 1 to 7 percent
Depth to restrictive feature: 20 to 40 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 3.9
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Limy Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC311AZ
Present native vegetation: Eastern Mojave wild buckwheat, big galleta, bush muhly, goldenhead, range ratany, creosotebush, red brome
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; extremely gravelly loam
Bt—1 to 9 inches; gravelly clay loam
Btk—9 to 17 inches; gravelly clay loam
Bk—17 to 32 inches; very gravelly loam
2Bkm—32 to 41 inches; indurated
3C—41 to 60 inches; extremely gravelly loamy sand

18—Castaneda extremely gravelly loam, dry, 1 to 7 percent slopes

Map Unit Setting

Landform: fan terraces

Elevation: 1,600 to 4,000 feet (488 to 1,219 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Castaneda and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Castaneda soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Argic Petrocalcids
Parent Material: Alluvium and/or colluvium derived from metamorphic rock
Slope: 1 to 7 percent
Depth to restrictive feature: 20 to 40 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 3.9
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, red brome, goldenhead, range ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; extremely gravelly loam
Bt—1 to 9 inches; gravelly clay loam
Btk—9 to 17 inches; gravelly clay loam
Bk—17 to 32 inches; very gravelly loam
2Bkm—32 to 41 inches; indurated
3C—41 to 60 inches; extremely gravelly loamy sand

19—Carrizo family very gravelly loamy sand, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains and alluvial fans
Elevation: 500 to 1,800 feet (152 to 549 meters)
Mean annual precipitation: 3 to 7 inches (76 to 178 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Carrizo family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Carrizo family soils

Taxonomic Classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Excessively drained
Permeability: Greater than 20 in/hr (very rapid)
Available water capacity total inches: 2.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Frequent
Runoff class: Negligible
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Sandy Bottom 2-7" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD416AZ
Present native vegetation: ironwood, burrobush, big galleta, catclaw acacia, creosotebush, littleleaf palo verde, smoketree, white bursage, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly loamy sand

C1—1 to 9 inches; loamy sand
C2—9 to 60 inches; very gravelly coarse sand

20—Carrizo family-Riverwash complex, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains and alluvial fans
Elevation: 500 to 1,800 feet (152 to 549 meters)
Mean annual precipitation: 3 to 7 inches (76 to 178 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Carrizo family and similar soils: 65 percent
Riverwash: 20 percent
Minor components: 15 percent

Properties and Qualities

Carrizo family soils

Taxonomic Classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Excessively drained
Permeability: Greater than 20 in/hr (very rapid)
Available water capacity total inches: 2.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Frequent
Runoff class: Negligible
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Sandy Bottom 2-7" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD416AZ
Present native vegetation: ironwood, burrobush, big galleta, catclaw acacia, creosotebush, littleleaf palo verde, smoketree, white bursage, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly loamy sand
C1—1 to 9 inches; loamy sand
C2—9 to 60 inches; very gravelly coarse sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

21—Carrizo-Riverwash complex, 3 to 8 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 750 to 2,000 feet (229 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 24 degrees C.)
Frost-free period: 280 to 320 days

Map Unit Composition

Carrizo and similar soils: 75 percent
Riverwash: 15 percent
Minor components: 10 percent

Properties and Qualities

Carrizo soils

Taxonomic Classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 3 to 8 percent
Surface fragments: About 70 percent gravel, about 5 percent cobbles, about 2 percent stones
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Occasional
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Sandy Wash 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA115AZ
Present native vegetation: creosotebush, white bursage, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; extremely gravelly loamy sand
C1—1 to 23 inches; extremely gravelly loamy sand
C2—23 to 60 inches; extremely gravelly sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

22—Carrizo-Riverwash complex, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains and alluvial fans
Elevation: 500 to 2,000 feet (152 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Carrizo and similar soils: 65 percent
Riverwash: 20 percent
Minor components: 15 percent

Properties and Qualities

Carrizo soils

Taxonomic Classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 1.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Frequent
Runoff class: Negligible
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Sandy Terrace 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA112AZ
Present native vegetation: white burrobush, creosotebush, smoketree, white bursage, big galleta, bush muhly, catclaw acacia, red brome, sweetbush, white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly coarse sand
C—1 to 60 inches; extremely gravelly loamy coarse sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

23—Cave gravelly sandy loam, 10 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,900 to 4,000 feet (579 to 1,219 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Cave and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Cave soils

Taxonomic Classification: Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 10 to 35 percent
Depth to restrictive feature: 4 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-1AZ; Upper Sonoran Desert
Ecological site name: Limy Upland 10-13" p.z.

Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XA111AZ
Present native vegetation: black grama, bush muhly, creosotebush, sideoats grama, big galleta, littleleaf palo verde, range ratany, shrubby buckwheat, slim tridens, whitestem paperflower
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; gravelly sandy loam
Bw—1 to 7 inches; gravelly coarse sandy loam
2Bkm—7 to 28 inches; indurated
2C—28 to 60 inches; extremely gravelly loamy coarse sand

24—Cave gravelly sandy loam, dry, 10 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,900 to 4,000 feet (579 to 1,219 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Cave and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Cave soils

Taxonomic Classification: Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 10 to 35 percent
Depth to restrictive feature: 4 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-2AZ; Middle Sonoran Desert
Ecological site name: Limy Upland 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XB210AZ
Present native vegetation: creosotebush, bush muhly, littleleaf palo verde, big galleta, black grama, sideoats grama, slim tridens, white bursage, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; gravelly sandy loam
Bw—1 to 7 inches; gravelly coarse sandy loam
2Bkm—7 to 28 inches; indurated
2C—28 to 60 inches; extremely gravelly loamy coarse sand

25—Cellar-Rock outcrop complex, 20 to 60 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,800 to 3,700 feet (549 to 1,128 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F. (18 to 21 degrees C.)
Mean annual soil temperature: 66 to 72 degrees F. (20 to 23 degrees C.)
Frost-free period: 230 to 250 days

Map Unit Composition

Cellar and similar soils: 50 percent
Rock outcrop: 25 percent
Minor components: 25 percent

Properties and Qualities

Cellar soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from igneous and metamorphic rock
Slope: 20 to 60 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic); 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high

Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Granitic Hills 10-12" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC335AZ
Present native vegetation: black grama, sideoats grama, desert needlegrass, Eastern Mojave wild buckwheat, agave, big galleta, bush muhly, false mesquite, ocotillo, shrubby buckwheat, tobosa
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 10 inches; very gravelly sandy loam
2Cr—10 to 13 inches; weathered bedrock
2R—13 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

26—Cellar-Rock outcrop complex, dry, 20 to 60 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,800 to 3,700 feet (549 to 1,128 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 64 to 70 degrees F. (18 to 21 degrees C.)
Mean annual soil temperature: 66 to 72 degrees F. (20 to 23 degrees C.)
Frost-free period: 230 to 250 days

Map Unit Composition

Cellar and similar soils: 50 percent
Rock outcrop: 25 percent
Minor components: 25 percent

Properties and Qualities

Cellar soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from igneous and metamorphic rock
Slope: 20 to 60 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic); 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Granitic Hills 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC306AZ
Present native vegetation: bush muhly, tobosa, desert needlegrass, Eastern Mojave wild buckwheat, agave, big galleta, black grama, false mesquite, ocotillo, shrubby buckwheat, sideoats grama, white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 10 inches; very gravelly sandy loam
2Cr—10 to 13 inches; weathered bedrock
2R—13 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

27—Cellar-Topock-Rock outcrop complex, 5 to 35 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 2,400 to 4,800 feet (732 to 1,463 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F. (15 to 18 degrees C.)
Mean annual soil temperature: 61 to 66 degrees F. (17 to 19 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Cellar and similar soils: 45 percent
Topock and similar soils: 30 percent
Rock outcrop: 20 percent

Minor components: 5 percent

Properties and Qualities

Cellar soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from igneous and metamorphic rock
Slope: 5 to 35 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic); 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Granitic Hills 10-12" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC335AZ
Present native vegetation: black grama, sideoats grama, desert needlegrass, Eastern Mojave wild buckwheat, agave, big galleta, bush muhly, false mesquite, ocotillo, shrubby buckwheat, tobosa
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 10 inches; very gravelly sandy loam
2Cr—10 to 13 inches; weathered bedrock
2R—13 to 13 inches; unweathered bedrock

Topock soils

Taxonomic Classification: Clayey, mixed, superactive, thermic, shallow Typic Haplargids
Parent Material: Alluvium derived from metamorphic rock
Slope: 5 to 35 percent
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 1.3
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-1AZ; Upper Sonoran Desert
Ecological site name: Shallow Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XA105AZ
Present native vegetation: black grama, sideoats grama, desert needlegrass, California juniper, Eastern Mojave wild buckwheat, big galleta, broom snakeweed, range ratany, tobosa, turbinella oak, turpentine bush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bt1—2 to 5 inches; gravelly sandy clay
Bt2—5 to 12 inches; sandy clay
2Cr—12 to 23 inches; weathered bedrock
2R—23 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

28—Cherioni very cobbly loam, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,600 to 2,900 feet (488 to 884 meters)
Mean annual precipitation: 3 to 7 inches (76 to 178 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Cherioni and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Cherioni soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 15 percent

Depth to restrictive feature: 5 to 20 inches to duripan; 7 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Limy Upland 2-7" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD409AZ
Present native vegetation: white bursage, creosotebush, white brittlebush, white ratany, big galleta, bush muhly, teddybear cholla
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very cobbly loam
Bw—1 to 8 inches; very gravelly clay loam
Bkqm—8 to 10 inches; indurated
2R—10 inches; unweathered bedrock

29—Chuckawalla-Riverbend complex, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 550 to 2,300 feet (168 to 701 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 270 to 320 days

Map Unit Composition

Chuckawalla and similar soils: 65 percent
Riverbend and similar soils: 25 percent
Minor components: 10 percent

Properties and Qualities

Chuckawalla soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, hyperthermic Typic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Surface fragments: About 15 percent cobbles, about 75 percent gravel
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 3.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Land capability (nonirrigated): 7c

Typical Profile

E—0 to 1 inches; extremely gravelly silt loam
Btz—1 to 5 inches; gravelly loam
Btkz—5 to 20 inches; very gravelly loam
Ck1—20 to 29 inches; extremely gravelly loamy sand
Ck2—29 to 34 inches; very gravelly sandy loam
Ck3—34 to 60 inches; very gravelly loamy sand

Riverbend soils

Taxonomic Classification: Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Surface fragments: About 25 percent cobbles, about 30 percent gravel
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 2.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Limy Upland 3-6" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA109AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very cobbly sandy loam
Bw—2 to 7 inches; very gravelly sandy loam
Bk1—7 to 18 inches; very cobbly loamy sand
Bk2—18 to 34 inches; very gravelly loamy sand
Bk3—34 to 60 inches; very gravelly sand

30—Chuckawalla-Riverbend families complex, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 550 to 2,200 feet (168 to 671 meters)
Mean annual precipitation: 3 to 7 inches (76 to 178 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Chuckawalla family and similar soils: 65 percent
Riverbend family and similar soils: 25 percent
Minor components: 10 percent

Properties and Qualities

Chuckawalla family soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, hyperthermic Typic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 4.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Saline Upland 2-7" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD414AZ
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; extremely gravelly silt loam
Btz—1 to 10 inches; very gravelly loam
Btk—10 to 23 inches; very gravelly sandy clay loam
2Bk—23 to 60 inches; very gravelly sandy loam

Riverbend family soils

Taxonomic Classification: Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 2.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Limy Upland 2-7" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD410AZ
Present native vegetation: creosotebush, white bursage, white ratany, big galleta, littleleaf palo verde, white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
BA—2 to 11 inches; very gravelly sandy loam
Bk—11 to 60 inches; very gravelly loamy sand

31—Cipriano very stony loam, 2 to 10 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 500 to 1,500 feet (152 to 457 meters)
Mean annual precipitation: 3 to 7 inches (76 to 178 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Cipriano and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Cipriano soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids
Parent Material: Alluvium derived from volcanic rock

Slope: 2 to 10 percent
Surface fragments: About 2 percent stones
Depth to restrictive feature: 4 to 20 inches to duripan
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Limy Upland 2-7" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD409AZ
Present native vegetation: creosotebush, white bursage, red brome, white ratany, big galleta, bush muhly, littleleaf palo verde, ocotillo
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very stony loam
Bk—1 to 10 inches; very gravelly loam
2Bkqm—10 inches; indurated

32—Cline very stony loam, 2 to 15 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 2,400 to 4,900 feet (732 to 1,494 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Cline and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Cline soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 15 percent
Surface fragments: About 2 percent stones
Depth to restrictive feature: 4 to 18 inches to duripan; 7 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-1AZ; Upper Sonoran Desert
Ecological site name: Limy Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XA111AZ
Present native vegetation: bush muhly, black grama, creosotebush, sideoats grama, big galleta, littleleaf palo verde, range ratany, shrubby buckwheat, slim tridens, whitestem paperflower
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very stony loam
Bw—1 to 11 inches; very gravelly loam
2Bkqm—11 to 18 inches; indurated
3R—18 inches; unweathered bedrock

33—Cline very stony loam, dry, 2 to 15 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 2,400 to 4,900 feet (732 to 1,494 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Cline and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Cline soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 15 percent

Surface fragments: About 2 percent stones
Depth to restrictive feature: 4 to 18 inches to duripan; 7 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-2AZ; Middle Sonoran Desert
Ecological site name: Limy Upland 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XB210AZ
Present native vegetation: creosotebush, bush muhly, littleleaf palo verde, Eastern Mojave wild buckwheat, big galleta, Anderson wolfberry, black grama, sideoats grama, slim tridens
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very stony loam
Bw—1 to 11 inches; very gravelly loam
2Bkqm—11 to 18 inches; indurated
3R—18 inches; unweathered bedrock

34—Continental-Tres Hermanos complex, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,200 to 3,700 feet (671 to 1,128 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Continental and similar soils: 50 percent
Tres Hermanos and similar soils: 25 percent
Minor components: 25 percent

Properties and Qualities

Continental soils

Taxonomic Classification: Fine, mixed, superactive, thermic Vertic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 10 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 8.5
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Clay Loam Upland 10-12" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC334AZ
Present native vegetation: Eastern Mojave wild buckwheat, big galleta, black grama, littleleaf palo verde, tobosa, bush muhly, canotia, goldenhead, ocotillo, range ratany, shrubby buckwheat, sideoats grama, whitestem paperflower
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly sandy loam
Bt1—1 to 19 inches; very gravelly sandy clay loam
Bt2—19 to 39 inches; clay
Bk—39 to 60 inches; clay loam

Tres Hermanos soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Typic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 6.1
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Loamy Upland 10-12" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC337AZ
Present native vegetation: Indian ricegrass, big galleta, black grama, bush muhly, range ratany, sideoats

grama, whitestem paperflower, Joshua tree, goldenhead, plains blackfoot
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Btk—2 to 26 inches; gravelly sandy clay loam
Bk—26 to 60 inches; gravelly sandy loam

35—Continental-Tres Hermanos complex, dry, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,600 to 3,000 feet (488 to 914 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Continental and similar soils: 50 percent
Tres Hermanos and similar soils: 25 percent
Minor components: 25 percent

Properties and Qualities

Continental soils

Taxonomic Classification: Fine, mixed, superactive, thermic Vertic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 8.5
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Clay Loam Upland 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC305AZ
Present native vegetation: big galleta, tobosa, Eastern Mojave wild buckwheat, Nevada Mormon tea, black grama, bush muhly, creosotebush, goldenhead, littleleaf palo verde, range ratany, sideoats grama
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly sandy loam
Bt1—1 to 19 inches; very gravelly sandy clay loam
Bt2—19 to 39 inches; clay
Bk—39 to 60 inches; clay loam

Tres Hermanos soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Typic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 6.1
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Limy Fan 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC308AZ
Present native vegetation: creosotebush, big galleta, range ratany, white bursage, whitestem paperflower, Joshua tree, black grama, bush muhly, goldenhead
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Btk—2 to 26 inches; gravelly sandy clay loam
Bk—26 to 60 inches; gravelly sandy loam

36—Continental-Rillino complex, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,100 to 3,400 feet (640 to 1,036 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)

Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Continental and similar soils: 50 percent
Rillino and similar soils: 35 percent
Minor components: 15 percent

Properties and Qualities

Continental soils

Taxonomic Classification: Fine, mixed, superactive, thermic Vertic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 10 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 8.5
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Clay Loam Upland 10-12" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC334AZ
Present native vegetation: Eastern Mojave wild buckwheat, big galleta, black grama, littleleaf palo verde, tobosa, bush muhly, canotia, goldenhead, ocotillo, range ratany, shrubby buckwheat, sideoats grama, whitestem paperflower
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly sandy loam
Bt1—1 to 19 inches; very gravelly sandy clay loam
Bt2—19 to 39 inches; clay
Bk—39 to 60 inches; clay loam

Rillino soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 5 to 15 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 5.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Loamy Upland 10-12" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC337AZ
Present native vegetation: Indian ricegrass, big galleta, black grama, bush muhly, range ratany, sideoats grama, whitestem paperflower, Joshua tree, canotia, goldenhead, littleleaf palo verde, plains blackfoot
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 8 inches; gravelly sandy clay loam
Bk1—8 to 16 inches; gravelly sandy clay loam
Bk2—16 to 27 inches; gravelly sandy loam
Bk3—27 to 39 inches; gravelly loamy sand
Bk4—39 to 54 inches; gravelly loamy sand
Bk5—54 to 60 inches; gravelly loamy sand

37—Continental-Rillino complex, dry, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,200 to 2,700 feet (671 to 823 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Continental and similar soils: 50 percent
Rillino and similar soils: 35 percent
Minor components: 15 percent

Properties and Qualities

Continental soils

Taxonomic Classification: Fine, mixed, superactive, thermic Vertic Calciargids

Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 10 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 8.5
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Clay Loam Upland 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC305AZ
Present native vegetation: big galleta, tobosa, Eastern Mojave wild buckwheat, Nevada Mormon tea, black grama, bush muhly, creosotebush, goldenhead, littleleaf palo verde, range ratany, sideoats grama
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly sandy loam
Bt1—1 to 19 inches; very gravelly sandy clay loam
Bt2—19 to 39 inches; clay
Bk—39 to 60 inches; clay loam

Rillino soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 5.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Limy Fan 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC308AZ
Present native vegetation: creosotebush, big galleta, range ratany, white bursage, whitestem paperflower, Joshua tree, black grama, bush muhly, goldenhead, littleleaf palo verde
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 16 inches; gravelly sandy clay loam
Bk2—16 to 27 inches; gravelly sandy loam
Bk—27 to 60 inches; gravelly loamy sand

38—Coolidge-Denure complex, 1 to 7 percent slopes

Map Unit Setting

Landform: stream terraces and fan terraces
Elevation: 600 to 1,200 feet (183 to 366 meters)
Mean annual precipitation: 3 to 7 inches (76 to 178 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Coolidge and similar soils: 40 percent
Denure and similar soils: 35 percent
Minor components: 25 percent

Properties and Qualities

Coolidge soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, hyperthermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 5 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Sandy Loam Upland 2-7" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD418AZ
Present native vegetation: creosotebush, white

bursage, blond plantain, big galleta, littleleaf palo verde, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bk1—2 to 27 inches; sandy loam
Bk2—27 to 46 inches; sandy loam
C—46 to 60 inches; gravelly sandy loam

Denure soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, hyperthermic Typic Haplocambids
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 7 percent
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 5.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Sandy Loam Upland 2-7" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD418AZ
Present native vegetation: creosotebush, white bursage, blond plantain, big galleta, littleleaf palo verde, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; loamy sand
Bw1—2 to 7 inches; loamy sand
Bw2—7 to 18 inches; gravelly coarse sandy loam
BC—18 to 60 inches; coarse sandy loam

39—Coolidge-Denure families complex, 1 to 7 percent slopes

Map Unit Setting

Landform: stream terraces and fan terraces
Elevation: 500 to 1,200 feet (152 to 366 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Coolidge family and similar soils: 40 percent
Denure family and similar soils: 35 percent
Minor components: 25 percent

Properties and Qualities

Coolidge family soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, hyperthermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 7 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Limy Fan 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA105AZ
Present native vegetation: creosotebush, white bursage, white ratany, blond plantain, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly loam
Bk1—2 to 8 inches; gravelly sandy loam
Bk2—8 to 29 inches; sandy loam
Bk3—29 to 41 inches; sandy loam
2Bk4—41 to 60 inches; gravelly sand

Denure family soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, hyperthermic Typic Haplocambids
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 7 percent
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert

Ecological site name: Limy Fan 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA105AZ
Present native vegetation: creosotebush, white bursage, white ratany, blond plantain, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly loamy sand
AB—1 to 11 inches; loamy sand
Bk—11 to 60 inches; sandy loam

40—Courthouse family-Rock outcrop-Rubble land complex, 40 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,800 to 5,200 feet (1,158 to 1,585 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 61 degrees F. (15 to 16 degrees C.)
Mean annual soil temperature: 61 to 63 degrees F. (17 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Courthouse family and similar soils: 45 percent
Rock outcrop: 20 percent
Rubble land: 20 percent
Minor components: 15 percent

Properties and Qualities

Courthouse family soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Ustic Torriorthents
Parent Material: Alluvium and/or colluvium derived from volcanic rock
Slope: 40 to 70 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clayey Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA117AZ
Present native vegetation: desert ceanothus, turbinella oak, birchleaf mountainmahogany, black grama, sideoats grama, desert needlegrass, range ratany, skunkbush sumac, sugar sumac, western bottlebrush grass, yellow-leaf silktassel
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly loam
C—2 to 12 inches; extremely gravelly loam
2R—12 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Rubble land

Consists of areas of cobbles, stones, and boulders. Rubble land is commonly at the base of mountains, mesas, and escarpments.

41—Courthouse family-Rock outcrop-Wagonbow complex, 15 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,800 to 5,200 feet (1,158 to 1,585 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F. (14 to 16 degrees C.)
Mean annual soil temperature: 59 to 63 degrees F. (15 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Courthouse family and similar soils: 40 percent
Rock outcrop: 30 percent
Wagonbow and similar soils: 20 percent
Minor components: 10 percent

Properties and Qualities

Courthouse family soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Ustic Torriorthents
Parent Material: Alluvium and/or colluvium derived from volcanic rock
Slope: 15 to 70 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clayey Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA117AZ
Present native vegetation: desert ceanothus, turbinella oak, birchleaf mountainmahogany, black grama, sideoats grama, desert needlegrass, range ratany, skunkbush sumac, sugar sumac, western bottlebrush grass, yellow-leaf silktassel
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; extremely cobbly loam
C—2 to 12 inches; extremely gravelly loam
2R—12 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Wagonbow soils

Taxonomic Classification: Fine, smectitic, thermic Ustertic Haplocambids
Parent Material: Alluvium and/or colluvium derived from volcanic rock
Slope: 15 to 25 percent
Surface fragments: About 2 percent stones
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 7.1
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: High
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clay Loam Slopes 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA108AZ
Present native vegetation: black grama, sideoats grama, desert ceanothus, desert needlegrass, turbinella oak, birchleaf mountainmahogany, false mesquite, muttongrass, shrubby buckwheat, western bottlebrush grass
Land capability (nonirrigated): 6c

Typical Profile

A1—0 to 3 inches; very stony clay loam
A2—3 to 6 inches; cobbly clay loam
Bw—6 to 50 inches; silty clay
C—50 to 60 inches; very gravelly clay loam

42—Far-Rock outcrop complex, 10 to 45 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 5,800 to 8,000 feet (1,768 to 2,438 meters)
Mean annual precipitation: 16 to 20 inches (406 to 508 millimeters)
Mean annual air temperature: 48 to 57 degrees F. (9 to 14 degrees C.)
Mean annual soil temperature: 50 to 59 degrees F. (11 to 16 degrees C.)
Frost-free period: 100 to 190 days

Map Unit Composition

Far and similar soils: 70 percent
Rock outcrop: 20 percent
Minor components: 10 percent

Properties and Qualities

Far soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, mesic Lithic Haplustolls
Parent Material: Mixed alluvium and colluvium dominated by granite
Slope: 10 to 45 percent

Surface fragments: About 2 percent boulders
Depth to restrictive feature: 5 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0. 6 to 0.2 in/hr (moderate)
Available water capacity total inches: 0.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-2AZ; Mogollon Transition Interior Chaparral, Pinyon-Juniper Woodland, and Ponderosa Pine Savannah
Ecological site name: Granitic Hills 16-20" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XB204AZ
Present native vegetation: black grama, sideoats grama, birchleaf mountainmahogany, muttongrass, Arizona fescue, Gambel oak, desert ceanothus, false mesquite, pointleaf manzanita, ponderosa pine, shrubby buckwheat, single-leaf pinyon, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A1—0 to 5 inches; very bouldery loam
A2—5 to 9 inches; very gravelly loam
2R—9 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

43—Dutchflat sandy loam, 0 to 2 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,800 to 4,800 feet (854 to 1,463 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 62 to 68 degrees F. (17 to 20 degrees C.)
Mean annual soil temperature: 64 to 70 degrees F. (19 to 22 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Dutchflat and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Dutchflat soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids
Parent Material: Alluvium derived from igneous and metamorphic rock
Slope: 0 to 2 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 7.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB226AZ
Present native vegetation: big galleta, white burrobrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 4 inches; sandy loam
Bt—4 to 37 inches; sandy clay loam
2C—37 to 60 inches; coarse sandy loam

44—Dutchflat fine sandy loam, dry, 1 to 3 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,400 to 3,100 feet (732 to 945 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Dutchflat and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Dutchflat soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids
Parent Material: Alluvium derived from igneous rock and metamorphic rock
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 6.1
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Low
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB226AZ
Present native vegetation: creosotebush, white bursage, big galleta, Anderson wolfberry, buckhorn cholla, bush muhly, goldenhead, range ratany, red brome
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; fine sandy loam
Bt—2 to 28 inches; gravelly sandy clay loam
2Btk—28 to 41 inches; gravelly sandy clay loam
2Bk—41 to 60 inches; very gravelly coarse sandy loam

45—Gadsden silty clay, 0 to 1 percent slopes

Map Unit Setting

Landform: flood plains (protected)
Elevation: 400 to 500 feet (122 to 152 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Gadsden and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Gadsden soils

Taxonomic Classification: Fine, smectitic, calcareous, hyperthermic Vertic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 9.0
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Low
Hydrologic group: D
Major Land Resource Area: 31; Lower Colorado Desert
Land capability (irrigated): 3s

Typical Profile

Az—0 to 2 inches; silty clay
Cz—2 to 56 inches; stratified silty clay to clay
2C—56 to 60 inches; stratified very fine sandy loam to silt loam

46—Gila-Glendale complex, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains and alluvial fans
Elevation: 2,400 to 2,600 feet (732 to 792 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Gila and similar soils: 50 percent
Glendale and similar soils: 30 percent
Minor components: 20 percent

Properties and Qualities

Gila soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 10.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: Occasional
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Loamy Bottom 10-12" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC340AZ
Present native vegetation: Arizona cottontop, bush muhly, big galleta, tobosa, Nevada Mormon tea, arrowweed, catclaw acacia, western honey mesquite
Land capability (nonirrigated): 7c

Typical Profile

Az—0 to 4 inches; very fine sandy loam
C1—4 to 12 inches; stratified silt loam
C2—12 to 21 inches; stratified very fine sandy loam
C3—21 to 29 inches; stratified fine sand to loamy fine sand
C4—29 to 60 inches; stratified fine sandy loam to silty clay loam

Glendale soils

Taxonomic Classification: Fine-silty, mixed, superactive, calcareous, thermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 10.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: Occasional
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Loamy Bottom 10-12" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC340AZ
Present native vegetation: Arizona cottontop, bush muhly, big galleta, tobosa, Nevada Mormon tea, arrowweed, catclaw acacia, western honey mesquite
Land capability (nonirrigated): 7c

Typical Profile

Ap—0 to 10 inches; silty clay loam
C—10 to 37 inches; silty clay loam
C3—37 to 54 inches; silt loam
C4—54 to 60 inches; coarse sand

47—Gila-Glendale complex, dry, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains and alluvial fans
Elevation: 1,800 to 2,400 feet (549 to 732 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Gila and similar soils: 50 percent
Glendale and similar soils: 30 percent
Minor components: 20 percent

Properties and Qualities

Gila soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 10.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: Occasional

Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Loamy Bottom 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC313AZ
Present native vegetation: big galleta, bush muhly, Arizona cottontop, Nevada Mormon tea, arrowweed, black grama, catclaw acacia, tobosa, western bottlebrush grass, western honey mesquite
Land capability (nonirrigated): 7c

Typical Profile

Az—0 to 4 inches; very fine sandy loam
C1—4 to 12 inches; stratified silt loam
C2—12 to 21 inches; stratified very fine sandy loam
C3—21 to 29 inches; stratified fine sand to loamy fine sand
C4—29 to 60 inches; stratified fine sandy loam to silty clay loam

Glendale soils

Taxonomic Classification: Fine-silty, mixed, superactive, calcareous, thermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 10.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: Occasional
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Loamy Bottom 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC313AZ
Present native vegetation: big galleta, bush muhly, Arizona cottontop, Nevada Mormon tea, arrowweed, black grama, catclaw acacia, tobosa, western bottlebrush grass, western honey mesquite
Land capability (nonirrigated): 7c

Typical Profile

Ap—0 to 10 inches; silty clay loam
C1—10 to 21 inches; silty clay loam
C2—21 to 37 inches; silty clay loam
C3—37 to 54 inches; silt loam
C4—54 to 60 inches; coarse sand

48—Goldroad-Rock outcrop complex, 20 to 60 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,400 to 3,000 feet (427 to 914 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Goldroad and similar soils: 60 percent
Rock outcrop: 20 percent
Minor components: 20 percent

Properties and Qualities

Goldroad soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent Material: Alluvium and colluvium derived from igneous and metamorphic rock
Slope: 20 to 60 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Granitic Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA104AZ

Present native vegetation: white brittlebush, creosotebush, white bursage, Nevada Mormon tea, big galleta, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bw—2 to 13 inches; very gravelly sandy loam
2R—13 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

49—Gonzales-Rock outcrop complex, 15 to 35 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,800 to 5,200 feet (1,158 to 1,585 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F. (14 to 16 degrees C.)
Mean annual soil temperature: 59 to 63 degrees F. (16 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Gonzales and similar soils: 60 percent
Rock outcrop: 25 percent
Minor components: 15 percent

Properties and Qualities

Gonzales soils

Taxonomic Classification: Clayey, smectitic, thermic, shallow Ustic Haplocambids
Parent Material: Alluvium derived from volcanic rock
Slope: 15 to 35 percent
Surface fragments: About 25 percent cobbles, about 20 percent gravel
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 13 to 23 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 2.2
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clayey Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA117AZ
Present native vegetation: sideoats grama, black grama, blue grama, bottlebrush squirreltail, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; very cobbly sandy clay loam
Bw1—1 to 7 inches; clay
Bw2—7 to 14 inches; clay
2Cr—14 to 17 inches; weathered bedrock
2R—17 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

50—Goodsprings family gravelly sandy loam, 1 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,200 to 3,600 feet (793 to 1,097 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Goodsprings family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Goodsprings family soils

Taxonomic Classification: Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 15 percent
Depth to restrictive feature: 4 to 20 inches to petrocalcic
Drainage class: Well drained

Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 2.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Limy Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC311AZ
Present native vegetation: white bursage, Schott yucca, bush muhly, creosotebush, Mexican bladder sage, Nevada Mormon tea, big galleta, broom snakeweed, goldenhead, ocotillo, red brome
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bk—2 to 18 inches; gravelly loam
2Bkm—18 to 39 inches; cemented
3C—39 to 60 inches; extremely gravelly loamy coarse sand

51—Goodsprings family gravelly sandy loam, dry, 1 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,450 to 3,000 feet (442 to 914 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Goodsprings family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Goodsprings family soils

Taxonomic Classification: Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 15 percent
Depth to restrictive feature: 4 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 2.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, red brome, Mexican bladder sage, Nevada Mormon tea, big galleta, goldenhead, ocotillo
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bk—2 to 18 inches; gravelly loam
2Bkm—18 to 39 inches; cemented
3C—39 to 60 inches; extremely gravelly loamy coarse sand

52—Goodsprings family gravelly sandy loam, 10 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,200 to 3,800 feet (975 to 1,158 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 61 to 70 degrees F. (16 to 21 degrees C.)
Mean annual soil temperature: 63 to 72 degrees F. (18 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Goodsprings family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Goodsprings family soils

Taxonomic Classification: Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids

Parent Material: Alluvium derived from mixed rock sources
Slope: 10 to 35 percent
Depth to restrictive feature: 4 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 2.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Loam Hills 10-13" p.z. Limy, Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC327AZ
Present native vegetation: Mexican bladder sage, big galleta, rayless goldenhead
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bk—2 to 18 inches; gravelly loam
2Bkm—18 to 39 inches; cemented
3C—39 to 60 inches; extremely gravelly loamy coarse sand

53—Goodsprings family gravelly sandy loam, dry, 10 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,990 to 2,020 feet (607 to 616 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Goodsprings family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Goodsprings family soils

Taxonomic Classification: Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 10 to 35 percent
Depth to restrictive feature: 4 to 20 inches to petrocalcic
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 2.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, red brome, Mexican bladder sage, Nevada Mormon tea, big galleta, goldenhead, ocotillo
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bk—2 to 18 inches; gravelly loam
2Bkm—18 to 39 inches; cemented
3C—39 to 60 inches; extremely gravelly loamy coarse sand

54—Graham-Arivaca complex, 2 to 15 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 4,000 to 5,500 feet (1,219 to 1,676 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F. (14 to 16 degrees C.)

Mean annual soil temperature: 59 to 63 degrees F. (16 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Graham and similar soils: 60 percent
Arivaca and similar soils: 25 percent
Minor components: 15 percent

Properties and Qualities

Graham soils

Taxonomic Classification: Clayey, smectitic, thermic Lithic Ustic Haplargids
Parent Material: Alluvium derived from igneous rock
Slope: 2 to 15 percent
Surface fragments: About 10 percent stones, about 25 percent gravel, about 25 percent cobbles
Depth to restrictive feature: 8 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 2.2
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Shallow Loamy 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA115AZ
Present native vegetation: Stansbury cliffrose, broom snakeweed, Aristida, Utah juniper, Opuntia, black grama, blue grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly loam
Bt1—2 to 7 inches; clay loam
Bt2—7 to 14 inches; clay
2R—14 inches; unweathered bedrock

Arivaca soils

Taxonomic Classification: Fine, smectitic, thermic Ustic Haplargids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 15 percent
Surface fragments: About 25 percent cobbles, about 20 percent gravel, about 5 percent stones
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 3.8
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: High
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clay Loam Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA103AZ
Present native vegetation: sideoats grama, black grama, blue grama, bottlebrush squirreltail, muttongrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly silty clay loam
BA—2 to 6 inches; cobbly silty clay
2Bt1—6 to 17 inches; clay
2Bt2—17 to 30 inches; clay
3Bk—30 to 36 inches; clay loam
4R—36 inches; unweathered bedrock

55—Graham-Rock outcrop complex, 10 to 40 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 4,000 to 5,500 feet (1,219 to 1,676 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F. (14 to 16 degrees C.)
Mean annual soil temperature: 59 to 63 degrees F. (16 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Graham and similar soils: 60 percent
Rock outcrop: 20 percent
Minor components: 20 percent

Properties and Qualities

Graham soils

Taxonomic Classification: Clayey, smectitic, thermic Lithic Ustic Haplargids
Parent Material: Alluvium derived from igneous rock
Slope: 10 to 40 percent
Surface fragments: About 25 percent gravel, about 25 percent cobbles, about 10 percent stones
Depth to restrictive feature: 8 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 2.2
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clayey Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA117AZ
Present native vegetation: sideoats grama, black grama, blue grama, bottlebrush squirreltail, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly loam
Bt1—2 to 7 inches; clay loam
Bt2—7 to 14 inches; clay
2R—14 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

56—Gunsight very gravelly loam, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 460 to 2,600 feet (140 to 792 meters)
Mean annual precipitation: 3 to 7 inches (76 to 178 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Gunsight and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Gunsight soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, hyperthermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Limy Upland 2-7" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD410AZ
Present native vegetation: creosotebush, white bursage, red brome, white ratany, big galleta, bush muhly, white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; very gravelly loam
Bw—3 to 6 inches; very gravelly sandy loam
Bk1—6 to 28 inches; extremely gravelly sandy loam
Bk2—28 to 50 inches; extremely gravelly coarse sandy loam
C—50 to 60 inches; extremely gravelly loamy sand

57—Gunsight very gravelly sandy loam, 10 to 40 percent slopes

Map Unit Setting

Landform: fan terraces

Elevation: 460 to 2,400 feet (140 to 732 meters)
Mean annual precipitation: 3 to 7 inches (76 to 178 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Gunsight and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Gunsight soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, hyperthermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 10 to 40 percent
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Limy Slopes 2-7" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD408AZ
Present native vegetation: creosotebush, red brome, big galleta, bush muhly, white brittlebush, white bursage, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; very gravelly sandy loam
Bw—3 to 6 inches; very gravelly sandy loam
Bk1—6 to 28 inches; extremely gravelly sandy loam
Bk2—28 to 50 inches; extremely gravelly coarse sandy loam
C—50 to 60 inches; extremely gravelly loamy sand

58—Hassell family-Lampshire-Rock outcrop complex, 10 to 30 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,800 to 7,200 feet (1,158 to 2,195 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 58 to 60 degrees F. (14 to 16 degrees C.)
Mean annual soil temperature: 60 to 62 degrees F. (16 to 18 degrees C.)
Frost-free period: 170 to 190 days

Map Unit Composition

Hassell family and similar soils: 50 percent
Lampshire and similar soils: 25 percent
Rock outcrop: 20 percent
Minor components: 5 percent

Properties and Qualities

Hassell family soils

Taxonomic Classification: Fine, smectitic, thermic Ustertic Haplargids
Parent Material: Alluvium derived from granite
Slope: 10 to 30 percent
Surface fragments: About 10 percent gravel, about 2 percent cobbles
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 4.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC355AZ

Present native vegetation: desert ceanothus, turbinella oak, Colorado pinyon, Opuntia, banana yucca, singleleaf pinyon, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 4 inches; loam
Bt1—4 to 13 inches; clay
Bt2—13 to 24 inches; clay
Bt3—24 to 33 inches; gravelly clay loam
2Cr—33 to 47 inches; weathered bedrock
2R—47 inches; unweathered bedrock

Lampshire soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents
Parent Material: Alluvium derived from granite
Slope: 20 to 30 percent
Surface fragments: About 50 percent gravel, about 2 percent cobbles
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic); 4 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC355AZ
Present native vegetation: desert ceanothus, turbinella oak, Colorado pinyon, Opuntia, banana yucca, singleleaf pinyon, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; very gravelly loam
Bw—1 to 6 inches; very gravelly sandy loam
2Cr—6 to 9 inches; weathered bedrock
2R—9 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

59—Holtville silty clay, 0 to 1 percent slopes

Map Unit Setting

Landform: flood plains (protected)
Elevation: 500 to 700 feet (152 to 213 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Holtville and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Holtville soils

Taxonomic Classification: Clayey over loamy, smectitic over mixed, calcareous, hyperthermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 7.6
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Low
Hydrologic group: D
Major Land Resource Area: 31; Lower Colorado Desert
Land capability (irrigated): 3s

Typical Profile

Az—0 to 2 inches; silty clay
Cz1—2 to 23 inches; clay
Cz2—23 to 31 inches; silty clay
2Cz3—31 to 42 inches; very fine sandy loam
2Cz4—42 to 60 inches; fine sand

60—Huevi very gravelly loam, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 600 to 3,000 feet (183 to 914 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)

Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Huevi and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Huevi soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Limy Slopes 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA107AZ
Present native vegetation: creosotebush, white bursage, red brome, white brittlebush, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Bw—2 to 9 inches; very gravelly sandy loam
Bkq—9 to 27 inches; very gravelly sandy loam
Bk—27 to 40 inches; extremely gravelly sandy loam
2C—40 to 60 inches; very gravelly loamy sand

61—Huevi very gravelly loam, 10 to 40 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 600 to 2,400 feet (183 to 732 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Huevi and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Huevi soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 10 to 40 percent
Surface fragments: About 65 percent gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Limy Slopes 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA107AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Bw—2 to 9 inches; very gravelly sandy loam
Bkq—9 to 27 inches; very gravelly sandy loam
Bk—27 to 40 inches; extremely gravelly sandy loam
2C—40 to 60 inches; very gravelly loamy sand

62—Akela-Rock outcrop complex, 20 to 60 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,400 to 2,200 feet (427 to 671 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)

Mean annual air temperature: 64 to 70 degrees F. (18 to 21 degrees C.)
Mean annual soil temperature: 66 to 72 degrees F. (20 to 23 degrees C.)
Frost-free period: 230 to 250 days

Map Unit Composition

Akela and similar soils: 60 percent
Rock outcrop: 20 percent
Minor components: 20 percent

Properties and Qualities

Akela soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from volcanic rock
Slope: 20 to 60 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Granitic Hills 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC306AZ
Present native vegetation: tobosa, bush muhly, Eastern Mojave wild buckwheat, desert needlegrass, littleleaf palo verde, shrubby buckwheat, slim tridens
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly sandy loam
C—1 to 12 inches; very gravelly sandy loam
2R—12 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

63—Hyder-Rock outcrop-Rubble land complex, 40 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,750 to 3,200 feet (533 to 975 meters)
Mean annual precipitation: 3 to 7 inches (76 to 178 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Hyder and similar soils: 50 percent
Rock outcrop: 20 percent
Rubble land: 20 percent
Minor components: 10 percent

Properties and Qualities

Hyder soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from volcanic rock
Slope: 40 to 70 percent
Surface fragments: About 9 percent stones
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Basalt Hills 2-7" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD401AZ
Present native vegetation: Nevada Mormon tea, big galleta, littleleaf palo verde, shrubby buckwheat, bush muhly, creosotebush, desert globemallow, white brittlebush, white bursage, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely stony loam
Bw—2 to 7 inches; extremely cobbly loam
2R—7 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Rubble land

Consists of areas of cobbles, stones, and boulders. Rubble land is commonly at the base of mountains, mesas, and escarpments.

64—Indio silt loam, 0 to 1 percent slopes

Map Unit Setting

Landform: flood plains (protected)
Elevation: 500 to 1,000 feet (152 to 305 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Indio and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Indio soils

Taxonomic Classification: Coarse-silty, mixed, superactive, calcareous, hyperthermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 10.2
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 31; Lower Colorado Desert
Land capability (irrigated): 3s

Typical Profile

A—0 to 8 inches; silt loam
Cz1—8 to 46 inches; silt loam
Cz2—46 to 58 inches; clay
2C—58 to 60 inches; sand

65—Ireteba family-Arizo complex, 1 to 3 percent slopes

Map Unit Setting

Landform: stream terraces and flood plains
Elevation: 2,800 to 4,600 feet (854 to 1,402 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 64 degrees F. (14 to 18 degrees C.)
Mean annual soil temperature: 59 to 66 degrees F. (16 to 20 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Ireteba family and similar soils: 45 percent
Arizo and similar soils: 30 percent
Minor components: 25 percent

Properties and Qualities

Ireteba family soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Surface fragments: About 15 percent gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Rare
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Wash 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC322AZ
Present native vegetation: white burrobrush, catclaw acacia, creosotebush

Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
C1—2 to 10 inches; sandy loam
C2—10 to 19 inches; gravelly sandy loam
C3—19 to 31 inches; gravelly sandy loam
C4—31 to 41 inches; gravelly coarse sandy loam
C5—41 to 60 inches; very gravelly loamy sand

Arizo soils

Taxonomic Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Surface fragments: About 30 percent gravel
Drainage class: Excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 2.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Frequent
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Wash 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC322AZ
Present native vegetation: white burrobrush, catclaw acacia, creosotebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
C1—2 to 11 inches; gravelly sandy loam
C2—11 to 15 inches; sandy loam
C3—15 to 35 inches; extremely gravelly loamy sand
C4—35 to 60 inches; very gravelly loamy coarse sand

66—Kinley gravelly loamy sand, 15 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,200 to 3,400 feet (975 to 1,036 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 64 to 70 degrees F. (18 to 21 degrees C.)
Mean annual soil temperature: 66 to 72 degrees F. (20 to 23 degrees C.)
Frost-free period: 230 to 250 days

Map Unit Composition

Kinley and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Kinley soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 15 to 35 percent
Surface fragments: About 20 percent gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC331AZ
Present native vegetation: Aristida, black grama, Mexican bladdersage, banana yucca, big galleta, turbinella oak
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly loamy sand
BA—2 to 9 inches; sandy loam
Bk1—9 to 13 inches; sandy loam
Bk2—13 to 24 inches; sandy loam
Bk3—24 to 34 inches; gravelly sandy loam
Bk4—34 to 50 inches; very gravelly sandy loam
C—50 to 60 inches; very gravelly sandy loam

67—Kinley-Poachie complex, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,800 to 3,000 feet (549 to 914 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)

Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Kinley and similar soils: 50 percent
Poachie and similar soils: 35 percent
Minor components: 15 percent

Properties and Qualities

Kinley soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Limy Fan 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB211AZ
Present native vegetation: creosotebush, white bursage, Anderson wolfberry, Joshua tree, Nevada Mormon tea, big galleta, catclaw acacia, goldenhead, range ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
BA—2 to 9 inches; sandy loam
Bk1—9 to 13 inches; sandy loam
Bk2—13 to 24 inches; sandy loam
Bk3—24 to 34 inches; gravelly sandy loam
Bk4—34 to 50 inches; very gravelly sandy loam
C—50 to 60 inches; very gravelly sandy loam

Poachie soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Typic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 7 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 6.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Limy Fan 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB211AZ
Present native vegetation: creosotebush, white bursage, Joshua tree, big galleta, goldenhead, range ratany, red brome
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly clay loam
Bw—2 to 24 inches; sandy loam
Btk—24 to 38 inches; sandy clay loam
Bk—38 to 60 inches; gravelly coarse sandy loam

68—Kofa silty clay, 0 to 1 percent slopes

Map Unit Setting

Landform: flood plains (protected)
Elevation: 500 to 700 feet (152 to 213 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Kofa and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Kofa soils

Taxonomic Classification: Clayey over sandy or sandy-skeletal, smectitic over mixed, calcareous, hyperthermic Vertic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 5.9
Shrink-swell potential: About 7.5 LEP (high)

Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 31; Lower Colorado Desert
Land capability (irrigated): 3s

Typical Profile

Ap—0 to 12 inches; silty clay
Cz—12 to 29 inches; stratified silty clay
2C—29 to 60 inches; stratified fine sand

69—Dudleyville-Vinton-Riverwash complex, 1 to 3 percent slopes

Map Unit Setting

Landform: stream terraces and flood plains
Elevation: 2,000 to 3,800 feet (610 to 1,158 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Dudleyville and similar soils: 40 percent
Vinton and similar soils: 30 percent
Riverwash: 20 percent
Minor components: 10 percent

Properties and Qualities

Dudleyville soils

Taxonomic Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Excessively drained
Permeability: Greater than 20 in/hr (very rapid)
Available water capacity total inches: 3.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Sandy Bottom 10-12" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC343AZ
Present native vegetation: Arizona cottontop, Mexican bladder sage, big galleta, bush muhly, catclaw acacia, western honey mesquite, fourwing saltbush, sand dropseed
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly loamy sand
C1—2 to 12 inches; gravelly loamy coarse sand
C—12 to 60 inches; very gravelly coarse sand

Vinton soils

Taxonomic Classification: Sandy, mixed, thermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Occasional
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Sandy Bottom 10-12" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC343AZ
Present native vegetation: Arizona cottontop, Mexican bladder sage, big galleta, bush muhly, catclaw acacia, western honey mesquite, fourwing saltbush, sand dropseed
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; coarse sandy loam
Bw—3 to 24 inches; loamy coarse sand
C1—24 to 30 inches; gravelly loamy coarse sand
2C2—30 to 38 inches; loamy coarse sand
3C3—38 to 60 inches; very gravelly loamy coarse sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

70—Dudleyville-Vinton-Riverwash complex, dry, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains and stream terraces
Elevation: 2,000 to 2,800 feet (610 to 853 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Dudleyville and similar soils: 40 percent
Vinton and similar soils: 30 percent
Riverwash: 20 percent
Minor components: 10 percent

Properties and Qualities

Dudleyville soils

Taxonomic Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Excessively drained
Permeability: Greater than 20 in/hr (very rapid)
Available water capacity total inches: 3.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Sandy Bottom 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC318AZ
Present native vegetation: big galleta, bush muhly, Mexican bladder sage, shortleaf baccharis, blue palo verde, catclaw acacia, desert needlegrass, littleleaf palo verde, western bottlebrush grass, western honey mesquite, whitestem paperflower
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly loamy sand
C1—2 to 12 inches; gravelly loamy coarse sand
C—12 to 60 inches; very gravelly coarse sand

Vinton soils

Taxonomic Classification: Sandy, mixed, thermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: Occasional
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Sandy Bottom 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC318AZ
Present native vegetation: big galleta, bush muhly, Mexican bladder sage, shortleaf baccharis, blue palo verde, catclaw acacia, desert needlegrass, littleleaf palo verde, western bottlebrush grass, western honey mesquite, whitestem paperflower
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; coarse sandy loam
Bw—3 to 24 inches; loamy coarse sand
C1—24 to 30 inches; gravelly loamy coarse sand
2C2—30 to 38 inches; loamy coarse sand
3C3—38 to 60 inches; very gravelly loamy coarse sand

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

71—Lagunita sand, 0 to 1 percent slopes

Map Unit Setting

Landform: flood plains (protected)
Elevation: 500 to 700 feet (152 to 213 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)

Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Lagunita and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Lagunita soils

Taxonomic Classification: Mixed, hyperthermic Typic Torripsamments
Parent Material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 3.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 31; Lower Colorado Desert
Land capability (irrigated): 3s

Typical Profile

A—0 to 2 inches; sand
C—2 to 60 inches; loamy sand

72—Lagunita-Ripley complex, 0 to 3 percent slopes

Map Unit Setting

Landform: flood plains (protected)
Elevation: 450 to 1,400 feet (137 to 427 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Lagunita and similar soils: 60 percent
Ripley and similar soils: 25 percent
Minor components: 15 percent

Properties and Qualities

Lagunita soils

Taxonomic Classification: Mixed, hyperthermic Typic Torripsamments
Parent Material: Alluvium derived from mixed rock sources
Slope: 0 to 3 percent
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 3.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Negligible
Hydrologic group: A
Major Land Resource Area: 31; Lower Colorado Desert
Land capability (irrigated): 4s

Typical Profile

A—0 to 2 inches; coarse sand
C—2 to 60 inches; loamy sand

Ripley soils

Taxonomic Classification: Coarse-silty over sandy or sandy-skeletal, mixed, superactive, calcareous, hyperthermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 0 to 3 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 5.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 31; Lower Colorado Desert
Land capability (irrigated): 3s

Typical Profile

A—0 to 1 inches; fine sandy loam
C1—1 to 30 inches; gravelly silt loam
C2—30 to 60 inches; gravelly loamy fine sand

73—Lampshire-Rock outcrop complex, 20 to 60 percent slopes

Map Unit Setting

Landform: hills and mountains

Elevation: 3,300 to 4,000 feet (1,006 to 1,219 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 64 degrees F. (14 to 18 degrees C.)
Mean annual soil temperature: 59 to 66 degrees F. (16 to 20 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Lampshire and similar soils: 65 percent
Rock outcrop: 20 percent
Minor components: 15 percent

Properties and Qualities

Lampshire soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents
Parent Material: Alluvium and colluvium derived from igneous rock
Slope: 20 to 60 percent
Surface fragments: About 15 percent gravel
Depth to restrictive feature: 6 to 20 inches to bedrock (paralithic); 17 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC355AZ
Present native vegetation: desert ceanothus, turbinella oak, Colorado pinyon, Opuntia, banana yucca, singleleaf pinyon, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; gravelly coarse sandy loam
C—1 to 6 inches; very gravelly sandy loam
Cr—6 to 17 inches; weathered bedrock
R—17 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

74—Lampshire-Rock outcrop complex, 30 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,800 to 7,200 feet (1,158 to 2,195 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 61 degrees F. (15 to 16 degrees C.)
Mean annual soil temperature: 61 to 63 degrees F. (17 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Lampshire and similar soils: 65 percent
Rock outcrop: 20 percent
Minor components: 15 percent

Properties and Qualities

Lampshire soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents
Parent Material: Alluvium and colluvium derived from igneous and metamorphic rock
Slope: 30 to 70 percent
Depth to restrictive feature: 4 to 16 inches to bedrock (paralithic); 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Hills 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.

Ecosystem site number: R038XA104AZ
Present native vegetation: turbinella oak, birchleaf mountainmahogany, black grama, desert ceanothus, sideoats grama, Wright silktassel, bush muhly, desert needlegrass, pointleaf manzanita, shrubby buckwheat, single-leaf pinyon
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; very gravelly loam
C—1 to 6 inches; very gravelly sandy loam
Cr—6 to 17 inches; weathered bedrock
R—17 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

75—Lampshire-Rock outcrop complex, 15 to 60 percent slopes, stony

Map Unit Setting

Landform: hills and mountains
Elevation: 4,200 to 6,000 feet (1,280 to 1,829 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 61 degrees F. (15 to 16 degrees C.)
Mean annual soil temperature: 61 to 63 degrees F. (17 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Lampshire and similar soils: 45 percent
Rock outcrop: 40 percent
Minor components: 15 percent

Properties and Qualities

Lampshire soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents
Parent Material: Alluvium and/or colluvium derived from volcanic rock
Slope: 15 to 60 percent
Surface fragments: About 2 percent stones
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clayey Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA117AZ
Present native vegetation: sideoats grama, desert ceanothus, turbinella oak, birchleaf mountainmahogany, black grama, blue grama, desert needlegrass, range ratany, shrubby buckwheat, skunkbush sumac, sugar sumac, yellow-leaf silktassel
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very stony loam
Bw—2 to 7 inches; very cobbly loam
2R—7 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

76—Lostman gravelly sandy loam, moist, 1 to 5 percent slopes

Map Unit Setting

Landform: stream terraces
Elevation: 2,400 to 3,200 feet (732 to 975 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 64 degrees F. (15 to 18 degrees C.)
Mean annual soil temperature: 61 to 66 degrees F. (17 to 20 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Lostman and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Lostman soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocambids

Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 5 percent
Surface fragments: About 15 percent gravel
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Coarse Sandy Loam 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC305AZ
Present native vegetation: creosotebush, big galleta, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 36 inches; gravelly sandy loam
2C—36 to 56 inches; very gravelly loamy coarse sand
3Bk—56 to 60 inches; gravelly sandy clay loam

77—Lostman sandy loam, dry, 1 to 3 percent slopes

Map Unit Setting

Landform: stream terraces
Elevation: 2,100 to 2,600 feet (640 to 792 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Lostman and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Lostman soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocambids
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, white bursage, big galleta, goldenhead
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
Bw1—2 to 12 inches; fine sandy loam
Bw2—12 to 27 inches; sandy loam
C1—27 to 38 inches; loam
C2—38 to 60 inches; very gravelly sandy loam

78—Lostman-Kinley complex, 1 to 7 percent slopes

Map Unit Setting

Landform: stream terraces and fan terraces
Elevation: 1,600 to 3,000 feet (488 to 914 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Lostman and similar soils: 40 percent
Kinley and similar soils: 35 percent
Minor components: 25 percent

Properties and Qualities

Lostman soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocambids
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 7 percent

Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Coarse Sandy Loam 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC305AZ
Present native vegetation: big galleta, creosotebush, black grama, bush muhly
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; sandy loam
Bw1—2 to 12 inches; fine sandy loam
Bw2—12 to 27 inches; sandy loam
C1—27 to 38 inches; loam
C2—38 to 60 inches; very gravelly sandy loam

Kinley soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 7 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC331AZ
Present native vegetation: Mexican bladder sage, big galleta, creosotebush, goldenhead, Nevada Mormon tea, black grama, broom snakeweed, bush muhly, range ratany, winterfat
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
BA—2 to 9 inches; sandy loam
Bk1—9 to 13 inches; sandy loam
Bk2—13 to 24 inches; sandy loam
Bk3—24 to 34 inches; gravelly sandy loam
Bk4—34 to 50 inches; very gravelly sandy loam
C—50 to 60 inches; very gravelly sandy loam

79—Marshes

Areas that are periodically wet or continually flooded. The surface is not deeply submerged.

80—Meloland very fine sandy loam, 0 to 1 percent slopes

Map Unit Setting

Landform: flood plains (protected)
Elevation: 500 to 700 feet (152 to 213 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Meloland and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Meloland soils

Taxonomic Classification: Coarse-loamy over clayey, mixed, superactive, calcareous, hyperthermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 7.4
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Low
Hydrologic group: C
Major Land Resource Area: 31; Lower Colorado Desert
Land capability (irrigated): 3s

Typical Profile

Ap—0 to 8 inches; very fine sandy loam
C—8 to 19 inches; very fine sandy loam
2Cz—19 to 60 inches; clay

81—Mohon-Kinley complex, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,400 to 3,600 feet (732 to 1,097 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Mohon and similar soils: 50 percent
Kinley and similar soils: 35 percent
Minor components: 15 percent

Properties and Qualities

Mohon soils

Taxonomic Classification: Fine, smectitic, thermic Typic Calciargids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 10 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 9.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Clay Loam Upland 10-13" p.z. Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC302AZ
Present native vegetation: creosotebush, white bursage, Anderson wolfberry, Nevada Mormon tea, Schott yucca, big galleta, catclaw acacia, range ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly loamy sand
BA—2 to 6 inches; clay loam
Btk—6 to 40 inches; clay
2Btk—40 to 60 inches; cobbly clay loam

Kinley soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 5 to 15 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 6.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Limy Fan 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC308AZ
Present native vegetation: big galleta, bush muhly, creosotebush, Anderson wolfberry, Mexican bladder sage, black grama, broom snakeweed, goldenhead, range ratany, winterfat
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
BA—2 to 9 inches; sandy loam
Bk1—9 to 13 inches; sandy loam
Bk2—13 to 24 inches; sandy loam
Bk3—24 to 34 inches; gravelly sandy loam
Bk4—34 to 50 inches; very gravelly sandy loam
C—50 to 60 inches; very gravelly sandy loam

82—Mohon-Poachie complex, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,550 to 4,000 feet (777 to 1,219 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Mohon and similar soils: 50 percent

Poachie and similar soils: 25 percent
Minor components: 25 percent

Properties and Qualities

Mohon soils

Taxonomic Classification: Fine, smectitic, thermic Typic Calciargids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 9.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Clay Loam Upland 10-13" p.z. Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC302AZ
Present native vegetation: creosotebush, white bursage, Anderson wolfberry, Nevada Mormon tea, Schott yucca, big galleta, catclaw acacia, range ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very cobbly loam
Bk—2 to 6 inches; clay loam
Btk—6 to 40 inches; clay
2Btk—40 to 60 inches; cobbly clay loam

Poachie soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Typic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 6.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Limy Fan 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC308AZ
Present native vegetation: creosotebush, goldenhead, winterfat, Anderson wolfberry, Joshua tree, big galleta, black grama, broom snakeweed, bush muhly, desert globemallow, range ratany, red brome
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 24 inches; sandy loam
Btk—24 to 38 inches; sandy clay loam
Bk—38 to 60 inches; gravelly coarse sandy loam

83—Mohon-Poachie complex, dry, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,800 to 2,800 feet (549 to 853 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Mohon and similar soils: 50 percent
Poachie and similar soils: 25 percent
Minor components: 25 percent

Properties and Qualities

Mohon soils

Taxonomic Classification: Fine, smectitic, thermic Typic Calciargids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 10 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 9.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Clay Loam Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB227AZ

Present native vegetation: creosotebush, white bursage, Anderson wolfberry, Nevada Mormon tea, Schott yucca, big galleta, catclaw acacia, range ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
BA—2 to 6 inches; clay loam
Btk—6 to 40 inches; clay
2Btk—40 to 60 inches; cobbly clay loam

Poachie soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Typic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 6.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Limy Fan 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB211AZ
Present native vegetation: creosotebush, white bursage, Joshua tree, big galleta, goldenhead, range ratany, red brome
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 24 inches; sandy loam
Btk—24 to 38 inches; sandy clay loam
Bk—38 to 60 inches; gravelly coarse sandy loam

84—Nickel-Topawa-Eba families complex, 10 to 50 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,000 to 4,200 feet (914 to 1,280 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 64 degrees F. (14 to 18 degrees C.)
Mean annual soil temperature: 59 to 66 degrees F. (16 to 20 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Nickel family and similar soils: 35 percent
Topawa family and similar soils: 30 percent
Eba family and similar soils: 25 percent
Minor components: 10 percent

Properties and Qualities

Nickel family soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium and/or colluvium derived from metamorphic rock
Slope: 15 to 50 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 4.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Limy, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC331AZ
Present native vegetation: Aristida, black grama, Mexican bladdersage, banana yucca, big galleta, turbinella oak
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; very gravelly loamy sand
Bk1—3 to 7 inches; very gravelly sandy clay loam
Bk2—7 to 26 inches; very gravelly loam
Bk3—26 to 60 inches; very gravelly sandy loam

Topawa family soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Parent Material: Alluvium derived from metamorphic rock and/or igneous rock
Slope: 15 to 50 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 4.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None

Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Loam Slopes 10-13" p.z. Fine, Skeletal
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC353AZ
Present native vegetation: black grama, flattop buckwheat, turbinella oak, Mexican bladdersage, banana yucca
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; very gravelly loamy sand
Bt1—3 to 18 inches; very gravelly sandy clay loam
Bt2—18 to 50 inches; very gravelly sandy loam
C—50 to 58 inches; gravelly loamy sand
2Bkb—58 to 60 inches; gravelly loam

Eba family soils

Taxonomic Classification: Clayey-skeletal, mixed, superactive, thermic Typic Calciargids
Parent Material: Alluvium derived from igneous rock and metamorphic rock
Slope: 10 to 25 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 4.0
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Clay Loam Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC334AZ
Present native vegetation: big galleta, flattop buckwheat, Mexican bladdersage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly sandy loam
Bt1—1 to 8 inches; very gravelly clay
Bt2—8 to 32 inches; very gravelly clay
Bt3—32 to 52 inches; very gravelly sandy clay
2Bkb—52 to 60 inches; very gravelly loam

85—Orwash family sandy loam, 1 to 3 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,600 to 4,000 feet (792 to 1,219 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Orwash family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Orwash family soils

Taxonomic Classification: Sandy, mixed, thermic Typic Torriorthents
Parent Material: Alluvium derived from granite
Slope: 1 to 3 percent
Drainage class: Somewhat excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 4.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Coarse Sandy Loam 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC305AZ
Present native vegetation: big galleta, white burrobush, Joshua tree, black grama, bush muhly, creosotebush, goldenhead, red brome
Land capability (nonirrigated): 7c

Typical Profile

A1—0 to 2 inches; sandy loam
A2—2 to 14 inches; coarse sandy loam
C1—14 to 26 inches; gravelly loamy sand
C2—26 to 47 inches; gravelly sand
2Btkb—47 to 60 inches; gravelly sandy clay loam

86—Orwash family sandy loam, dry, 1 to 3 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,450 to 3,000 feet (442 to 914 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Orwash family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Orwash family soils

Taxonomic Classification: Sandy, mixed, thermic Typic Torriorthents
Parent Material: Alluvium derived from granite
Slope: 1 to 3 percent
Drainage class: Somewhat excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 4.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB205AZ
Present native vegetation: creosotebush, white bursage, goldenhead, big galleta, red brome
Land capability (nonirrigated): 7c

Typical Profile

A1—0 to 2 inches; sandy loam
A2—2 to 14 inches; coarse sandy loam
C1—14 to 26 inches; gravelly loamy sand
C2—26 to 47 inches; gravelly sand
2Btkb—47 to 60 inches; gravelly sandy clay loam

87—Penthouse-Gonzales complex, 5 to 35 percent slopes

Map Unit Setting

Landform: fan terraces and hills
Elevation: 3,650 to 5,600 feet (1,113 to 1,706 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 61 degrees F. (15 to 16 degrees C.)
Mean annual soil temperature: 61 to 63 degrees F. (17 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Penthouse and similar soils: 50 percent
Gonzales and similar soils: 25 percent
Minor components: 25 percent

Properties and Qualities

Penthouse soils

Taxonomic Classification: Fine, mixed, superactive, thermic Ustic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 5 to 15 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 6.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clay Loam Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA103AZ
Present native vegetation: sideoats grama, western bottlebrush grass, Utah juniper, black grama, blue grama, desert ceanothus, false mesquite, hairy grama, muttongrass, range ratany, rough menodora, turbinella oak, western wheatgrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very cobbly loam
BA—2 to 8 inches; gravelly clay loam
Bt—8 to 27 inches; gravelly clay
Btk—27 to 40 inches; gravelly clay loam
2Btkb—40 to 47 inches; gravelly sandy loam
2Bkb—47 to 60 inches; very gravelly loamy sand

Gonzales soils

Taxonomic Classification: Clayey, smectitic, thermic, shallow Ustic Haplocambids
Parent Material: Alluvium derived from volcanic rock
Slope: 5 to 35 percent
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 13 to 23 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 2.2
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clayey Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA117AZ
Present native vegetation: sideoats grama, desert ceanothus, birchleaf mountainmahogany, black grama, blue grama, desert needlegrass, range ratany, shrubby buckwheat, skunkbush sumac, sugar sumac
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; very cobbly loam
Bw—1 to 14 inches; clay
2Cr—14 to 17 inches; weathered bedrock
2R—17 inches; unweathered bedrock

88—Poachie very gravelly loam, 1 to 4 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,500 to 2,800 feet (762 to 853 meters)
Mean annual precipitation: 6 to 12 inches (152 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Poachie and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Poachie soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Typic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 6.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Limy Fan 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC308AZ
Present native vegetation: creosotebush, goldenhead, winterfat, Anderson wolfberry, Joshua tree, big galleta, black grama, broom snakeweed, bush muhly, desert globemallow, range ratany, red brome
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Bw—2 to 24 inches; sandy loam
Btk—24 to 38 inches; sandy clay loam
Bk—38 to 60 inches; gravelly coarse sandy loam

89—Poachie very gravelly loam, dry, 1 to 4 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,300 to 2,900 feet (701 to 884 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)

Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Poachie and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Poachie soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Typic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 4 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 6.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Limy Fan 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB211AZ
Present native vegetation: creosotebush, white bursage, Joshua tree, big galleta, goldenhead, range ratany, red brome
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Bw—2 to 24 inches; sandy loam
Btk—24 to 38 inches; sandy clay loam
Bk—38 to 60 inches; gravelly coarse sandy loam

90—Quilotosa-Rock outcrop complex, 20 to 60 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 500 to 3,000 feet (152 to 914 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Quilotosa and similar soils: 60 percent
Rock outcrop: 20 percent
Minor components: 20 percent

Properties and Qualities

Quilotosa soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent Material: Alluvium and colluvium derived from igneous and metamorphic rock
Slope: 20 to 60 percent
Depth to restrictive feature: 9 to 12 inches to bedrock (paralithic); 10 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Granitic Hills 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC306AZ
Present native vegetation: white brittlebush, littleleaf palo verde, white bursage, blond plantain, bush muhly, desert globemallow, ocotillo, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; extremely gravelly sandy loam
Bw—3 to 9 inches; very gravelly sandy loam
2Cr—9 to 15 inches; weathered bedrock
2R—15 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

91—Razorback extremely gravelly sandy loam, 15 to 35 percent slopes

Map Unit Setting

Landform: hills
Elevation: 2,400 to 3,900 feet (732 to 1,189 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 64 to 70 degrees F. (18 to 21 degrees C.)
Mean annual soil temperature: 66 to 72 degrees F. (20 to 23 degrees C.)
Frost-free period: 230 to 280 days

Map Unit Composition

Razorback and similar soils: 90 percent
Minor components: 10 percent

Properties and Qualities

Razorback soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent Material: Alluvium and colluvium derived from volcanic rock
Slope: 15 to 35 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Andesite Hills 6-10" p.z. Coarse
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB201AZ
Present native vegetation: creosotebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
C—2 to 5 inches; very gravelly sandy loam
2R—5 inches; unweathered bedrock

92—Razorback-Rock outcrop complex, 1 to 25 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,900 to 3,000 feet (579 to 914 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Razorback and similar soils: 65 percent
Rock outcrop: 20 percent
Minor components: 15 percent

Properties and Qualities

Razorback soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from igneous rock
Slope: 1 to 25 percent
Surface fragments: About 9 percent stones
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Basalt Hills 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB202AZ
Present native vegetation: creosotebush, Nevada Mormon tea, range ratany, red brome, Eastern Mojave wild buckwheat, big galleta, blackbrush, bush encelia, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely cobbly loam
Bk—2 to 15 inches; extremely gravelly loam
2R—15 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

93—Razorback-Rock outcrop complex, 15 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 2,500 to 5,000 feet (762 to 1,524 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Razorback and similar soils: 60 percent
Rock outcrop: 20 percent
Minor components: 20 percent

Properties and Qualities

Razorback soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from igneous rock
Slope: 15 to 70 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Basalt Hills 10-13" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC333AZ
Present native vegetation: creosotebush, rayless brittlebush, slim tridens, black grama
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very stony loam
Bk—2 to 15 inches; very gravelly loam
2R—15 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

94—Razorback-Rock outcrop complex, dry, 15 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,700 to 4,800 feet (518 to 1,463 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Razorback and similar soils: 60 percent
Rock outcrop: 20 percent
Minor components: 20 percent

Properties and Qualities

Razorback soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from igneous rock
Slope: 15 to 70 percent
Surface fragments: About 9 percent stones
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high

Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Basalt Hills 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB202AZ
Present native vegetation: creosotebush, Nevada Mormon tea, range ratany, red brome, Eastern Mojave wild buckwheat, big galleta, blackbrush, bush encelia, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely cobbly loam
Bk—2 to 15 inches; extremely gravelly loam
2R—15 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

95—Razorback-Rock outcrop-Rubble land complex, 40 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 2,400 to 4,700 feet (732 to 1,433 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Razorback and similar soils: 45 percent
Rock outcrop: 20 percent
Rubble land: 20 percent
Minor components: 15 percent

Properties and Qualities

Razorback soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from igneous rock
Slope: 40 to 70 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Basalt Hills 10-13" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC333AZ
Present native vegetation: Eastern Mojave wild buckwheat, creosotebush, red brome, white bursage, Nevada Mormon tea, big galleta, blackbrush, bush encelia, desert needlegrass, range ratany, turpentine bush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely cobbly loam
Bk—2 to 15 inches; extremely gravelly loam
2R—15 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Rubble land

Consists of areas of cobbles, stones, and boulders. Rubble land is commonly at the base of mountains, mesas, and escarpments.

96—Razorback-Rock outcrop-Rubble land complex, dry, 40 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,700 to 4,100 feet (518 to 1,250 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)

Frost-free period: 200 to 250 days

Map Unit Composition

Razorback and similar soils: 45 percent
Rock outcrop: 20 percent
Rubble land: 20 percent
Minor components: 15 percent

Properties and Qualities

Razorback soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from igneous rock
Slope: 40 to 70 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Basalt Hills 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB202AZ
Present native vegetation: creosotebush, Nevada Mormon tea, range ratany, red brome, Eastern Mojave wild buckwheat, big galleta, blackbrush, bush encelia, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely cobbly loam
Bk—2 to 15 inches; extremely gravelly loam
2R—15 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Rubble land

Consists of areas of cobbles, stones, and boulders. Rubble land is commonly at the base of mountains, mesas, and escarpments.

97—Rillino gravelly loamy sand, 15 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,200 to 2,800 feet (671 to 853 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Rillino and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Rillino soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 15 to 35 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 5.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Limy Fan 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC308AZ
Present native vegetation: creosotebush, big galleta, range ratany, white bursage, whitestem paperflower, Joshua tree, black grama, bush muhly, goldenhead, littleleaf palo verde
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly loamy sand
Bw—2 to 16 inches; gravelly sandy clay loam
Bk2—16 to 27 inches; gravelly sandy loam

Bk—27 to 60 inches; gravelly loamy sand

98—Rillino-Tres Hermanos complex, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,700 to 2,600 feet (518 to 792 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Rillino and similar soils: 50 percent
Tres Hermanos and similar soils: 35 percent
Minor components: 15 percent

Properties and Qualities

Rillino soils

Taxonomic Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 5.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Limy Fan 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC308AZ
Present native vegetation: creosotebush, big galleta, range ratany, white bursage, whitestem paperflower, Joshua tree, black grama, bush muhly, goldenhead, littleleaf palo verde
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bw—2 to 16 inches; gravelly sandy clay loam
Bk2—16 to 27 inches; gravelly sandy loam
Bk—27 to 60 inches; gravelly loamy sand

Tres Hermanos soils

Taxonomic Classification: Fine-loamy, mixed, superactive, thermic Typic Calciargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 7 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 6.2
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Low
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Limy Fan 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC308AZ
Present native vegetation: creosotebush, big galleta, range ratany, white bursage, whitestem paperflower, Joshua tree, black grama, bush muhly, goldenhead
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; gravelly clay loam
Btk—2 to 26 inches; gravelly sandy clay loam
Bk—26 to 60 inches; gravelly sandy loam

99—Ripley silt loam, 0 to 1 percent slopes

Map Unit Setting

Landform: flood plains (protected)
Elevation: 460 to 870 feet (140 to 265 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Ripley and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Ripley soils

Taxonomic Classification: Coarse-silty over sandy or sandy-skeletal, mixed, superactive, calcareous, hyperthermic Typic Torrifluvents
Parent Material: Alluvium derived from mixed rock sources
Slope: 0 to 1 percent
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 6.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 31; Lower Colorado Desert
Land capability (irrigated): 3w

Typical Profile

Az—0 to 2 inches; silt loam
Cz—2 to 26 inches; silt loam
C—26 to 60 inches; fine sand

100—Riverbend family very cobbly sandy loam, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,250 to 1,600 feet (381 to 488 meters)
Mean annual precipitation: 3 to 7 inches (76 to 178 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Riverbend family and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Riverbend family soils

Taxonomic Classification: Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 2.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Limy Upland 2-7" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD410AZ
Present native vegetation: creosotebush, white bursage, white ratany, big galleta, littleleaf palo verde, white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very cobbly sandy loam
BA—2 to 11 inches; very gravelly sandy loam
Bk—11 to 60 inches; very gravelly loamy sand

101—Riverbend very cobbly sandy loam, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 550 to 2,000 feet (168 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Riverbend and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Riverbend soils

Taxonomic Classification: Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 2.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None

Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Limy Upland 3-6" p.z. Deep
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA109AZ
Present native vegetation: creosotebush, white bursage, Mediterranean grass, Nevada Mormon tea, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very cobbly sandy loam
Bw—2 to 7 inches; very gravelly sandy loam
Bk—7 to 60 inches; very gravelly loamy sand

102—Riverwash-Fluvaquents association, 0 to 3 percent slopes

Map Unit Setting

Landform: flood plains
Elevation: 3,700 to 3,800 feet (1,128 to 1,158 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 59 to 61 degrees F. (15 to 16 degrees C.)
Mean annual soil temperature: 61 to 63 degrees F. (17 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Riverwash: 70 percent
Fluvaquents and similar soils: 20 percent
Minor components: 10 percent

Properties and Qualities

Riverwash

Barren fluvial channels, usually coarse-textured, exposed along narrow drainageways, subject to shifting during flood events.

Fluvaquents soils

Taxonomic Classification: Fluvaquents
Parent Material: Alluvium derived from mixed rock sources
Slope: 0 to 3 percent
Drainage class: Moderately well drained
Flooding hazard: Frequent
Hydrologic group: A
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Sandy Bottom 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA111AZ
Present native vegetation: western wheatgrass, Fremont cottonwood, burrobush, netleaf hackberry, sand dropseed, seep willow, sideoats grama, skunkbush sumac, spike dropseed, vine mesquite, western bottlebrush grass, willow
Land capability (nonirrigated): 6c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

103—Rock outcrop-Hyder complex, 35 to 65 percent slopes

Map Unit Setting

Landform: hills
Elevation: 500 to 2,600 feet (152 to 792 meters)
Mean annual precipitation: 3 to 7 inches (76 to 178 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Rock outcrop: 45 percent
Hyder and similar soils: 40 percent
Minor components: 15 percent

Properties and Qualities

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Hyder soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents

Parent Material: Alluvium and/or colluvium derived from volcanic rock
Slope: 35 to 65 percent
Surface fragments: About 9 percent stones
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Volcanic Hills 2-7" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD422AZ
Present native vegetation: white brittlebush, Nevada Mormon tea, big galleta, bush muhly, creosotebush, desert globemallow, littleleaf palo verde, white bursage, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely stony loam
Bw—2 to 7 inches; extremely cobbly loam
2R—7 inches; unweathered bedrock

104—Rock outcrop-Razorback complex, 20 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,800 to 4,150 feet (549 to 1,265 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Rock outcrop: 65 percent
Razorback and similar soils: 30 percent
Minor components: 5 percent

Properties and Qualities

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Razorback soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Parent Material: Alluvium and/or colluvium derived from igneous rock
Slope: 20 to 70 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 0.9
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Andesite Hills 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB220AZ
Present native vegetation: flattop buckwheat, white bursage, creosotebush, blackbrush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
C—2 to 15 inches; very gravelly loam
2R—15 inches; unweathered bedrock

105—Rock outcrop-Sunrock complex, 35 to 65 percent slopes

Map Unit Setting

Landform: hills
Elevation: 1,150 to 3,000 feet (351 to 914 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)

Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Rock outcrop: 45 percent
Sunrock and similar soils: 40 percent
Minor components: 15 percent

Properties and Qualities

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Sunrock soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent Material: Colluvium over residuum weathered from igneous and metamorphic rock
Slope: 35 to 65 percent
Surface fragments: About 9 percent stones
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic); 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Volcanic Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA118AZ
Present native vegetation: creosotebush, white bursage, white brittlebush, bush encelia, desert needlegrass, red brome, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly fine sandy loam
Bw—2 to 5 inches; very gravelly sandy loam
2Cr—5 to 6 inches; weathered bedrock
2R—6 inches; unweathered bedrock

106—Romero-Chiricahua-Rock outcrop complex, 5 to 35 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,400 to 5,600 feet (1,036 to 1,707 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F. (14 to 16 degrees C.)
Mean annual soil temperature: 59 to 63 degrees F. (16 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Romero and similar soils: 45 percent
Chiricahua and similar soils: 30 percent
Rock outcrop: 20 percent
Minor components: 5 percent

Properties and Qualities

Romero soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents
Parent Material: Alluvium derived from granite
Slope: 5 to 35 percent
Surface fragments: About 5 percent stones, about 20 percent cobbles, about 40 percent gravel
Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah

Ecological site name: Granitic Hills 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA104AZ
Present native vegetation: turbinella oak, Utah juniper, Eriogonum, singleleaf pinyon, Colorado pinyon
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; extremely cobbly sandy loam
Bw—1 to 6 inches; very gravelly sandy clay loam
Cr—6 to 60 inches; weathered bedrock

Chiricahua soils

Taxonomic Classification: Clayey, mixed, superactive, thermic, shallow Ustic Haplargids
Parent Material: Alluvium derived from granite
Slope: 5 to 35 percent
Surface fragments: About 10 percent cobbles, about 40 percent gravel
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 2.0
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Hills 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA104AZ
Present native vegetation: turbinella oak, Utah juniper, Eriogonum, singleleaf pinyon, Colorado pinyon
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; very gravelly sandy loam
Bt1—1 to 6 inches; sandy clay
Bt2—6 to 14 inches; sandy clay
Bt3—14 to 16 inches; gravelly sandy clay
2Cr—16 to 22 inches; weathered bedrock
2R—22 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

107—Romero-Lampshire-Rock outcrop complex, 35 to 70 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,400 to 6,000 feet (1,036 to 1,829 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F. (14 to 16 degrees C.)
Mean annual soil temperature: 59 to 63 degrees F. (16 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Romero and similar soils: 60 percent
Lampshire and similar soils: 20 percent
Rock outcrop: 15 percent
Minor components: 5 percent

Properties and Qualities

Romero soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents
Parent Material: Alluvium derived from granite
Slope: 35 to 70 percent
Surface fragments: About 30 percent cobbles, about 20 percent gravel, about 10 percent stones
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Hills 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.

Ecosystem site number: R038XA104AZ
Present native vegetation: birchleaf mountainmahogany, black grama, bush muhly, desert ceanothus, shrubby buckwheat, sideoats grama, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; extremely cobbly sandy loam
Bw—1 to 6 inches; very gravelly sandy clay loam
2Cr—6 to 60 inches; weathered bedrock

Lampshire soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents
Parent Material: Alluvium derived from granite
Slope: 35 to 70 percent
Surface fragments: About 70 percent gravel
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic); 4 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Hills 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA104AZ
Present native vegetation: Wright silktassel, birchleaf mountainmahogany, black grama, bush muhly, desert ceanothus, desert needlegrass, pointleaf manzanita, shrubby buckwheat, sideoats grama, single-leaf pinyon, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; gravelly coarse sandy loam
C—1 to 6 inches; very gravelly sandy loam
Cr—6 to 17 inches; weathered bedrock
R—17 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

108—Rositas family, Superstition and Torriorthents soils, 1 to 60 percent slopes

Map Unit Setting

Landform: sand sheets and dunes and relic stream terraces
Elevation: 450 to 950 feet (137 to 290 meters)
Mean annual precipitation: 3 to 7 inches (76 to 178 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Rositas family and similar soils: 40 percent
Superstition and similar soils: 25 percent
Torriorthents and similar soils: 25 percent
Minor components: 10 percent

Properties and Qualities

Rositas family soils

Taxonomic Classification: Mixed, hyperthermic Typic Torripsamments
Parent Material: Eolian sands
Slope: 5 to 30 percent
Drainage class: Somewhat excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 4.0
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Deep Sand 2-7" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD423AZ
Present native vegetation: big galleta, creosotebush, white bursage, birdcage eveningprimrose
Land capability (nonirrigated): 7c

Typical Profile

C1—0 to 17 inches; fine sand
C2—17 to 60 inches; sand

Superstition soils

Taxonomic Classification: Sandy, mixed, hyperthermic Typic Haplocalcids
Parent Material: Eolian sands
Slope: 1 to 10 percent
Drainage class: Somewhat excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 3.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: A
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-4AZ; Lower Sonoran Desert
Ecological site name: Limy Fan 2-7" p.z. Sandy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XD406AZ
Present native vegetation: big galleta, white bursage, creosotebush, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; gravelly fine sand
Bw—1 to 7 inches; fine sand
Bk—7 to 60 inches; fine sand

Torriorthents soils

Taxonomic Classification: Torriorthents
Parent Material: Lacustrine deposits
Slope: 25 to 60 percent
Depth to restrictive feature: 4 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Flooding hazard: None
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land capability (nonirrigated): 7c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

109—Rositas, Superstition family and Torriorthents soils, 1 to 60 percent slopes

Map Unit Setting

Landform: sand sheets and dunes, stream terrace, and fan terrace
Elevation: 500 to 1,600 feet (152 to 488 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Rositas and similar soils: 40 percent
Superstition family and similar soils: 25 percent
Torriorthents and similar soils: 20 percent
Minor components: 15 percent

Properties and Qualities

Rositas soils

Taxonomic Classification: Mixed, hyperthermic Typic Torripsamments
Parent Material: Eolian sands
Slope: 5 to 30 percent
Drainage class: Somewhat excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 4.2
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Sandy Upland 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA113AZ
Present native vegetation: big galleta, creosotebush, white bursage, white ratany

Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; sand
C—1 to 60 inches; sand

Superstition family soils

Taxonomic Classification: Sandy, mixed, hyperthermic Typic Haplocalcids
Parent Material: Eolian sands
Slope: 1 to 10 percent
Drainage class: Somewhat excessively drained
Permeability: From 6.0 to 20 in/hr (rapid)
Available water capacity total inches: 3.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very low
Hydrologic group: A
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Limy Fan 3-6" p.z. Sandy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA121AZ
Present native vegetation: white bursage, creosotebush, big galleta, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; fine sand
Bk1—2 to 35 inches; fine sand
Bk2—35 to 60 inches; fine sand

Torriorthents soils

Taxonomic Classification: Torriorthents
Parent Material: Lacustrine deposits
Slope: 25 to 60 percent
Depth to restrictive feature: 4 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Flooding hazard: None
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Breaks 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA102AZ
Land capability (nonirrigated): 7c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

110—Stagecoach very gravelly loam, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,800 to 2,200 feet (549 to 671 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Stagecoach and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Stagecoach soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Low
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Sandy Loam Slopes 7-10" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC310AZ
Present native vegetation: big galleta, creosotebush, black grama, bush muhly, buckhorn cholla, littleleaf palo verde, ocotillo, range ratany, white brittlebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Bw—2 to 19 inches; gravelly loam
Bk—19 to 60 inches; very gravelly sandy loam

111—Stagecoach very gravelly loam, 10 to 40 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,800 to 2,500 feet (549 to 762 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Stagecoach and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Stagecoach soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 10 to 40 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Sandy Loam Slopes 7-10" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC310AZ
Present native vegetation: big galleta, creosotebush, black grama, bush muhly, buckhorn cholla, littleleaf palo verde, ocotillo, range ratany, white brittlebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Bw—2 to 19 inches; gravelly loam
Bk—19 to 60 inches; very gravelly sandy loam

112—Stagecoach very gravelly sandy loam, 5 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,900 to 3,700 feet (579 to 1,128 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Stagecoach and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Stagecoach soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 5 to 35 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Loamy Upland 10-12" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.

Ecosystem site number: R040XC337AZ
Present native vegetation: big galleta, black grama, bush muhly, Nevada Mormon tea, broom snakeweed, creosotebush, goldenhead, littleleaf palo verde, range ratany, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 19 inches; gravelly loam
Bk—19 to 60 inches; very gravelly sandy loam

113—Stagecoach very gravelly sandy loam, dry, 5 to 35 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,800 to 2,800 feet (549 to 853 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Stagecoach and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Stagecoach soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 5 to 35 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.8
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Sandy Loam Slopes 7-10" p.z. Limy

Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC310AZ
Present native vegetation: creosotebush, white bursage, littleleaf palo verde, Nevada Mormon tea, big galleta, buckhorn cholla, bush muhly, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 19 inches; gravelly loam
Bk—19 to 60 inches; very gravelly sandy loam

114—Stagecoach-Topawa family-Eba complex, 10 to 50 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,000 to 4,400 feet (610 to 1,341 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Stagecoach and similar soils: 35 percent
Topawa family and similar soils: 30 percent
Eba and similar soils: 25 percent
Minor components: 10 percent

Properties and Qualities

Stagecoach soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 15 to 50 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range

Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Loamy Upland 10-12" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC337AZ
Present native vegetation: big galleta, black grama, bush muhly, Nevada Mormon tea, broom snakeweed, creosotebush, goldenhead, littleleaf palo verde, range ratany, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loamy sand
Bw—2 to 19 inches; gravelly loam
Bk—19 to 60 inches; very gravelly sandy loam

Topawa family soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Parent Material: Alluvium derived from igneous and metamorphic rock
Slope: 10 to 50 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 3.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Loamy Upland 10-12" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC337AZ
Present native vegetation: big galleta, black grama, bush muhly, Nevada Mormon tea, broom snakeweed, creosotebush, goldenhead, littleleaf palo verde, range ratany, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bt—2 to 23 inches; extremely cobbly sandy clay loam
BC—23 to 58 inches; very gravelly sandy loam
2Btb—58 to 60 inches; very gravelly sandy clay loam

Eba soils

Taxonomic Classification: Clayey-skeletal, mixed, superactive, thermic Typic Haplargids
Parent Material: Alluvium and/or colluvium derived from metamorphic rock
Slope: 10 to 25 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 3.3
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Clay Loam Upland 10-12" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC334AZ
Present native vegetation: black grama, Eastern Mojave wild buckwheat, big galleta, bush muhly, tobosa, canotia, false mesquite, littleleaf palo verde, range ratany, turpentine bush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly sandy loam
Bt—1 to 28 inches; very gravelly sandy clay
BC—28 to 38 inches; very gravelly sandy clay loam
C—38 to 60 inches; very gravelly sandy loam

115—Stagecoach-Topawa family-Eba complex, dry, 10 to 50 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,800 to 2,750 feet (549 to 838 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)

Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Stagecoach and similar soils: 35 percent
Topawa family and similar soils: 30 percent
Eba and similar soils: 25 percent
Minor components: 10 percent

Properties and Qualities

Stagecoach soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from mixed rock sources
Slope: 15 to 50 percent
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 4.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Sandy Loam Slopes 7-10" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC310AZ
Present native vegetation: big galleta, creosotebush, black grama, bush muhly, buckhorn cholla, littleleaf palo verde, ocotillo, range ratany, white brittlebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loamy sand
Bw—2 to 19 inches; gravelly loam
Bk—19 to 60 inches; very gravelly sandy loam

Topawa family soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Parent Material: Alluvium derived from igneous and metamorphic rock
Slope: 10 to 50 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 3.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Sandy Loam Slopes 7-10" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC310AZ
Present native vegetation: big galleta, creosotebush, black grama, bush muhly, buckhorn cholla, littleleaf palo verde, ocotillo, range ratany, white brittlebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bt—2 to 23 inches; extremely cobbly sandy clay loam
BC—23 to 58 inches; very gravelly sandy loam
2Btb—58 to 60 inches; very gravelly sandy clay loam

Eba soils

Taxonomic Classification: Clayey-skeletal, mixed, superactive, thermic Typic Haplargids
Parent Material: Alluvium and/or colluvium derived from metamorphic rock
Slope: 10 to 25 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 3.3
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Clay Loam Upland 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC305AZ
Present native vegetation: big galleta, tobosa, Nevada Mormon tea, black grama, bush muhly, littleleaf palo verde, range ratany, white bursage

Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly sandy loam
Bt—1 to 28 inches; very gravelly sandy clay
BC—28 to 38 inches; very gravelly sandy clay loam
C—38 to 60 inches; very gravelly sandy loam

116—Sunrock extremely gravelly sandy loam, 15 to 35 percent slopes

Map Unit Setting

Landform: hills
Elevation: 1,350 to 3,000 feet (411 to 914 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 78 degrees F. (21 to 26 degrees C.)
Mean annual soil temperature: 72 to 80 degrees F. (23 to 28 degrees C.)
Frost-free period: 250 to 340 days

Map Unit Composition

Sunrock and similar soils: 90 percent
Minor components: 10 percent

Properties and Qualities

Sunrock soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent Material: Colluvium derived from volcanic rock
Slope: 15 to 35 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Volcanic Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA118AZ
Present native vegetation: creosotebush, white brittlebush, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bw—2 to 5 inches; very gravelly sandy loam
2R—5 inches; unweathered bedrock

117—Sunrock-Rock outcrop complex, 30 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 1,850 to 2,800 feet (564 to 853 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Sunrock and similar soils: 70 percent
Rock outcrop: 20 percent
Minor components: 10 percent

Properties and Qualities

Sunrock soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Parent Material: Colluvium over residuum weathered from igneous and metamorphic rock
Slope: 30 to 65 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic); 4 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Volcanic Hills 3-6" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA118AZ
Present native vegetation: creosotebush, white bursage, bush encelia, white brittlebush, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely gravelly sandy loam
Bw—2 to 5 inches; very gravelly sandy loam
2Cr—5 to 6 inches; weathered bedrock
2R—6 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

118—Tombstone-Caralampi-Eloma complex, 10 to 50 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,200 to 4,800 feet (975 to 1,463 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F. (14 to 16 degrees C.)
Mean annual soil temperature: 59 to 63 degrees F. (16 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

Tombstone and similar soils: 35 percent
Caralampi and similar soils: 30 percent
Eloma and similar soils: 25 percent
Minor components: 10 percent

Properties and Qualities

Tombstone soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Ustic Haplocalcids
Parent Material: Alluvium derived from granite
Slope: 15 to 50 percent
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 3.6
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA106AZ
Present native vegetation: black grama, sideoats grama, needle and thread, desert ceanothus, muttongrass, range ratany, slim tridens, turbinella oak, western bottlebrush grass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; extremely cobbly loam
Bw—1 to 4 inches; very gravelly loam
Bk—4 to 60 inches; very gravelly loam

Caralampi soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Ustic Haplargids
Parent Material: Alluvium derived from granite
Slope: 15 to 50 percent
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 3.9
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Limy Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA106AZ
Present native vegetation: black grama, sideoats grama, needle and thread, desert ceanothus, muttongrass, range ratany, slim tridens, turbinella oak
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 3 inches; very gravelly loamy sand
Bt1—3 to 18 inches; very gravelly sandy clay loam
Bt2—18 to 50 inches; very gravelly sandy loam
2C—50 to 58 inches; gravelly loamy sand
3Bkb—58 to 60 inches; gravelly loam

Eloma soils

Taxonomic Classification: Clayey-skeletal, mixed, superactive, thermic Ustic Haplargids
Parent Material: Alluvium derived from granite
Slope: 10 to 25 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 3.8
Shrink-swell potential: About 7.5 LEP (high)

Flooding hazard: None
Runoff class: Medium
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Clay Loam Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA103AZ
Present native vegetation: sideoats grama, western bottlebrush grass, black grama, blue grama, desert ceanothus, false mesquite, muttongrass, range ratany, rough menodora, turbinella oak, western wheatgrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; very cobbly sandy loam
Bw—1 to 3 inches; very cobbly sandy clay loam
Bt1—3 to 40 inches; very cobbly clay
Bt2—40 to 60 inches; extremely cobbly sandy clay

119—Torriorthents, 35 to 65 percent slopes

Map Unit Setting

Landform: hills and fan terraces
Elevation: 2,400 to 3,800 feet (732 to 1,158 meters)
Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)
Mean annual air temperature: 57 to 64 degrees F. (14 to 18 degrees C.)
Mean annual soil temperature: 59 to 66 degrees F. (16 to 20 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Torriorthents and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Torriorthents soils

Taxonomic Classification: Torriorthents
Slope: 35 to 65 percent
Depth to restrictive feature: 4 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Flooding hazard: None
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Loamy Breaks 10-12" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC336AZ
Land capability (nonirrigated): 7c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

120—Torriorthents, dry, 35 to 65 percent slopes

Map Unit Setting

Landform: hills and fan terraces
Elevation: 1,800 to 2,800 feet (549 to 2,800 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 57 to 64 degrees F. (14 to 18 degrees C.)
Mean annual soil temperature: 59 to 66 degrees F. (16 to 20 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Torriorthents and similar soils: 75 percent
Minor components: 25 percent

Properties and Qualities

Torriorthents soils

Taxonomic Classification: Torriorthents
Slope: 35 to 65 percent
Depth to restrictive feature: 4 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Flooding hazard: None
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range
Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Loamy Breaks 7-10" p.z.

Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC302AZ
Land capability (nonirrigated): 7c

Typical Profile

Soils in this landscape position are highly variable with respect to depth, texture, color, and/or chemical properties. Therefore, physical and chemical properties of specific horizons are not given, and interpretations such as erodibility are not determined. The taxonomic unit description is representative of what may be found in this landscape position.

121—Tumarion very cobbly loam, 2 to 15 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 2,400 to 4,600 feet (732 to 1,402 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (16 to 23 degrees C.)
Frost-free period: 190 to 250 days

Map Unit Composition

Tumarion and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Tumarion soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 15 percent
Surface fragments: About 30 percent cobbles, about 25 percent gravel
Depth to restrictive feature: 5 to 18 inches to duripan; 7 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Limy Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC311AZ
Present native vegetation: Juniperus, broom snakeweed, Yucca
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; very cobbly loam
Bk—3 to 10 inches; extremely gravelly loam
2Bkqm—10 to 12 inches; indurated
3R—12 inches; unweathered bedrock

122—Tumarion very cobbly loam, dry, 2 to 15 percent slopes

Map Unit Setting

Landform: plateaus and mesas
Elevation: 2,200 to 3,800 feet (671 to 1,158 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (16 to 23 degrees C.)
Frost-free period: 190 to 250 days

Map Unit Composition

Tumarion and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Tumarion soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 15 percent
Depth to restrictive feature: 5 to 18 inches to duripan; 7 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D

Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, red brome, Mojave yucca, goldenhead
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; very cobbly loam
Bk—3 to 10 inches; extremely gravelly loam
2Bkqm—10 to 12 inches; indurated
3R—12 inches; unweathered bedrock

123—Tyro extremely stony sandy loam, 3 to 35 percent slopes

Map Unit Setting

Landform: pediments
Elevation: 1,000 to 2,000 feet (305 to 610 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Tyro and similar soils: 90 percent
Minor components: 10 percent

Properties and Qualities

Tyro soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids
Parent Material: Alluvium and/or colluvium derived from metamorphic rock
Slope: 3 to 35 percent
Surface fragments: About 9 percent stones
Depth to restrictive feature: 5 to 19 inches to duripan
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Sandy Loam Hills 3-6" p.z. Limy, Gravelly, Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA120AZ
Present native vegetation: creosotebush, blond plantain, white brittlebush, red brome, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; extremely stony sandy loam
Bw—1 to 6 inches; very gravelly sandy loam
Bk—6 to 9 inches; very gravelly coarse sandy loam
Bkqm—9 inches; indurated

124—Tyro very stony loam, 2 to 10 percent slopes

Map Unit Setting

Landform: pediments
Elevation: 900 to 3,000 feet (274 to 914 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Tyro and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Tyro soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids
Parent Material: Alluvium and/or colluvium derived from metamorphic rock
Slope: 2 to 10 percent
Surface fragments: About 2 percent stones
Depth to restrictive feature: 5 to 19 inches to duripan
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None

Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Ecological site name: Sandy Loam Hills 3-6" p.z. Limy, Gravelly, Shallow
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XA120AZ
Present native vegetation: creosotebush, blond plantain, white brittlebush, red brome, white ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very stony loam
Bw—1 to 6 inches; very gravelly sandy loam
Bk—6 to 9 inches; very gravelly coarse sandy loam
Bkqm—9 inches; indurated

125—Vekol family gravelly loamy sand, 2 to 7 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,000 to 3,200 feet (610 to 975 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Vekol family and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Vekol family soils

Taxonomic Classification: Fine, mixed, superactive, thermic Typic Haplargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 7 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 5.2
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: D
Major Land Resource Area: 30; Mohave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Fine
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC321AZ
Present native vegetation: big galleta, Opuntia, burrograss, black grama, rayless goldenhead
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 4 inches; gravelly loamy sand
BA—4 to 10 inches; gravelly sandy loam
2Bt1—10 to 26 inches; gravelly sandy clay
2Bt2—26 to 40 inches; gravelly sandy clay loam
3Bkn—40 to 60 inches; very gravelly sand

126—Vekol family gravelly loamy sand, dry, 2 to 7 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,000 to 3,200 feet (610 to 975 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 23 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Vekol family and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

Vekol family soils

Taxonomic Classification: Fine, mixed, superactive, thermic Typic Haplargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 7 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 5.2
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: D
Major Land Resource Area: 40; Sonoran Basin and Range

Land Resource Unit: 40-3AZ; Sonoran-Mohave Desert Transition
Ecological site name: Clay Loam Upland 7-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R040XC305AZ
Present native vegetation: big galleta, tobosa, Nevada Mormon tea, black grama, bush muhly, goldenhead, littleleaf palo verde, range ratany, white bursage
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 4 inches; gravelly loamy sand
BA—4 to 10 inches; gravelly sandy loam
2Bt1—10 to 26 inches; gravelly sandy clay
2Bt2—26 to 40 inches; gravelly sandy clay loam
3Bkn—40 to 60 inches; very gravelly sand

127—Water

Includes streams, rivers, lakes, and ponds. These areas are covered with water in most years, at least during the period that is warm enough for plants to grow. Many areas are covered throughout the year.

128—Whitehills very gravelly loam, 1 to 5 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 2,500 to 3,500 feet (762 to 1,067 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 62 to 68 degrees F. (17 to 20 degrees C.)
Mean annual soil temperature: 64 to 70 degrees F. (19 to 22 degrees C.)
Frost-free period: 190 to 250 days

Map Unit Composition

Whitehills and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Whitehills soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Argidurids
Parent Material: Alluvium derived from volcanic rock
Slope: 1 to 5 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 2.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Low
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Limy Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC311AZ
Present native vegetation: creosotebush, white bursage, big galleta
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Btk1—2 to 7 inches; very gravelly loam
Btk2—7 to 19 inches; very gravelly clay loam
Bk—19 to 27 inches; very gravelly loam
2Bkqm—27 inches; indurated

129—Whitehills very gravelly loam, dry, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 1,800 to 3,000 feet (549 to 914 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 62 to 68 degrees F. (17 to 20 degrees C.)
Mean annual soil temperature: 64 to 70 degrees F. (19 to 22 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Whitehills and similar soils: 80 percent
Minor components: 20 percent

Properties and Qualities

Whitehills soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Argidurids
Parent Material: Alluvium derived from volcanic rock
Slope: 2 to 15 percent
Depth to restrictive feature: 20 to 40 inches to duripan

Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 2.7
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Limy Upland 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB214AZ
Present native vegetation: creosotebush, white bursage, red brome, Anderson wolfberry, Mojave yucca, goldenhead, range ratany
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; very gravelly loam
Btk1—2 to 7 inches; very gravelly loam
Btk2—7 to 19 inches; very gravelly clay loam
Bk—19 to 27 inches; very gravelly loam
2Bkqm—27 inches; indurated

130—White House family very gravelly loamy sand, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,400 to 4,000 feet (1,036 to 1,219 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 57 to 64 degrees F. (14 to 16 degrees C.)
Mean annual soil temperature: 59 to 63 degrees F. (16 to 18 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

White House family and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

White House family soils

Taxonomic Classification: Fine, mixed, superactive, thermic Ustic Haplargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Surface fragments: About 40 percent gravel
Drainage class: Well drained
Permeability: From 0.001 to .06 in/hr (very slow)
Available water capacity total inches: 5.1
Shrink-swell potential: About 10.0 LEP (very high)
Flooding hazard: None
Runoff class: High
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Sandy Loam Upland 10-13" p.z. Fine, Gravelly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC315AZ
Present native vegetation: big galleta, Aristida, Utah juniper, banana yucca, black grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; very gravelly loamy sand
Bt1—1 to 15 inches; very gravelly sandy clay loam
Bt2—15 to 21 inches; gravelly clay
Bt3—21 to 32 inches; clay
BC—32 to 43 inches; gravelly sandy clay loam
C—43 to 60 inches; gravelly loamy sand

131—White House gravelly loamy sand, 2 to 15 percent slopes

Map Unit Setting

Landform: fan terraces
Elevation: 3,800 to 4,800 feet (1,158 to 1,463 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 61 degrees F. (14 to 16 degrees C.)
Mean annual soil temperature: 59 to 63 degrees F. (16 to 18 degrees C.)
Frost-free period: 180 to 210 days

Map Unit Composition

White House and similar soils: 85 percent
Minor components: 15 percent

Properties and Qualities

White House soils

Taxonomic Classification: Fine, mixed, superactive, thermic Ustic Haplargids
Parent Material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent

Surface fragments: About 2 percent cobbles, about 30 percent gravel
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 6.7
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: C
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Loamy Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA109AZ
Present native vegetation: big galleta, Opuntia, burrograss, Utah juniper, banana yucca, black grama, rayless goldenhead
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; gravelly loamy sand
BA—1 to 5 inches; sandy clay loam
2Bt—5 to 23 inches; sandy clay
2Btk—23 to 42 inches; gravelly sandy clay loam
2Bk—42 to 60 inches; gravelly loamy sand

132—Wikieup-Mutang-Rock outcrop complex, 5 to 35 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 3,100 to 5,400 feet (945 to 1,646 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 22 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Wikieup and similar soils: 45 percent
Mutang and similar soils: 30 percent
Rock outcrop: 20 percent
Minor components: 5 percent

Properties and Qualities

Wikieup soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Typic Torriorthents
Parent Material: Alluvium and colluvium derived from igneous and metamorphic rock
Slope: 5 to 35 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic); 7 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Granitic/Schist Hills 10-13" p.z. Alkaline
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC306AZ
Present native vegetation: Eastern Mojave wild buckwheat, desert needlegrass, big galleta, Nevada Mormon tea, range ratany, red brome, turbinella oak, white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; extremely cobbly coarse sandy loam
C—1 to 5 inches; gravelly coarse sandy loam
2Cr—5 to 8 inches; weathered bedrock
2R—8 inches; unweathered bedrock

Mutang soils

Taxonomic Classification: Clayey, mixed, superactive, thermic, shallow Typic Haplargids
Parent Material: Alluvium and/or colluvium derived from metamorphic rock
Slope: 5 to 35 percent
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 15 to 30 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)

Available water capacity total inches: 1.5
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Granitic/Schist Hills 10-13" p.z. Alkaline
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC306AZ
Present native vegetation: desert needlegrass, black grama, big galleta, broom snakeweed, range ratany, sideoats grama, turpentine bush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 3 inches; extremely gravelly sandy loam
Bt1—3 to 5 inches; very gravelly clay loam
Bt2—5 to 15 inches; gravelly clay
Cr—15 to 22 inches; weathered bedrock
R—22 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

133—Mutang-Wikieup-Rock outcrop complex, 3 to 30 percent slopes

Map Unit Setting

Landform: pediments
Elevation: 2,400 to 5,400 feet (732 to 1,646 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (16 to 22 degrees C.)
Frost-free period: 180 to 250 days

Map Unit Composition

Mutang and similar soils: 55 percent
Wikieup and similar soils: 25 percent
Rock outcrop: 15 percent
Minor components: 5 percent

Properties and Qualities

Mutang soils

Taxonomic Classification: Clayey, mixed, superactive, thermic, shallow Typic Haplargids
Parent Material: Alluvium derived from igneous rock
Slope: 3 to 30 percent
Surface fragments: About 15 percent gravel
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic); 20 to 41 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.001 to .06 in/hr (very slow)
Available water capacity total inches: 2.2
Shrink-swell potential: About 7.0 LEP (high)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Granitic/Schist Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC346AZ
Present native vegetation: turbinella oak, Utah juniper, banana yucca, Eriogonum, desert ceanothus
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; gravelly sandy loam
Bt1—1 to 5 inches; loam
Bt2—5 to 15 inches; gravelly clay
2Cr—15 to 22 inches; weathered bedrock
2R—22 inches; unweathered bedrock

Wikieup soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Typic Torriorthents
Parent Material: Alluvium derived from mixed rock sources
Slope: 3 to 30 percent
Depth to restrictive feature: 5 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.5
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None

Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Granitic/Schist Upland 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC346AZ
Present native vegetation: turbinella oak, Utah juniper, banana yucca, Eriogonum, desert ceanothus
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; extremely cobbly coarse sandy loam
C—1 to 5 inches; gravelly coarse sandy loam
2Cr—5 to 8 inches; weathered bedrock
2R—8 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

134—Wikieup-Rock outcrop complex, dry, 20 to 60 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 2,150 to 2,900 feet (655 to 884 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 22 degrees C.)
Frost-free period: 200 to 250 days

Map Unit Composition

Wikieup and similar soils: 50 percent
Rock outcrop: 25 percent
Minor components: 25 percent

Properties and Qualities

Wikieup soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Typic Torriorthents
Parent Material: Alluvium and colluvium derived from igneous and metamorphic rock
Slope: 20 to 60 percent
Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic); 7 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-2AZ; Middle Mohave Desert
Ecological site name: Granitic Hills 6-10" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XB207AZ
Present native vegetation: big galleta, desert needlegrass, Nevada Mormon tea, Parish threeawn, bush encelia, creosotebush, red brome, white brittlebush
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 1 inches; very gravelly sandy loam
C—1 to 5 inches; gravelly coarse sandy loam
2Cr—5 to 8 inches; weathered bedrock
2R—8 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

135—Yahana family silty clay loam, 1 to 3 percent slopes

Map Unit Setting

Landform: flood plains (protected)
Elevation: 500 to 700 feet (152 to 213 meters)
Mean annual precipitation: 3 to 6 inches (76 to 152 millimeters)
Mean annual air temperature: 70 to 74 degrees F. (21 to 23 degrees C.)
Mean annual soil temperature: 72 to 76 degrees F. (23 to 25 degrees C.)
Frost-free period: 250 to 325 days

Map Unit Composition

Yahana family and similar soils: 85 percent

Minor components: 15 percent

Properties and Qualities

Yahana family soils

Taxonomic Classification: Fine-silty, mixed, superactive, hyperthermic Typic Haplosalids
Parent Material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Drainage class: Well drained
Permeability: From 0.06 to 0.2 in/hr (slow)
Available water capacity total inches: 6.3
Shrink-swell potential: About 7.5 LEP (high)
Flooding hazard: None
Runoff class: Low
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-1AZ; Lower Mohave Desert
Other ecological sites may occur in this map unit and vary in extent between delineations.
Land capability (irrigated): 3s

Typical Profile

Anz—0 to 4 inches; silty clay loam
Bnz1—4 to 8 inches; stratified silty clay
Bnz2—8 to 29 inches; silt loam
Bnz3—29 to 41 inches; stratified silty clay
Bnz4—41 to 56 inches; silty clay loam
C—56 to 60 inches; fine sand

136—Tumarion-Nickel family complex, 8 to 35 percent slopes

Map Unit Setting

Landform: mesas
Elevation: 2,900 to 3,000 feet (884 to 914 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 70 degrees F. (15 to 21 degrees C.)
Mean annual soil temperature: 61 to 72 degrees F. (17 to 22 degrees C.)
Frost-free period: 190 to 250 days

Map Unit Composition

Tumarion and similar soils: 70 percent
Nickel family and similar soils: 15 percent
Minor components: 15 percent

Properties and Qualities

Tumarion soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Parent Material: Alluvium derived from basalt
Slope: 8 to 35 percent
Surface fragments: About 10 percent gravel, about 60 percent cobbles, about 5 percent stones
Depth to restrictive feature: 5 to 18 inches to duripan; 7 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 1.3
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 30; Mojave Desert
Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Loamy Slopes 10-13" p.z. Cobbly
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC309AZ
Present native vegetation: creosotebush, rayless brittlebush, slim tridens, black grama
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 2 inches; extremely cobbly sandy loam
Bk—2 to 15 inches; very cobbly sandy loam
Bkqm—15 to 19 inches; indurated
2R—19 inches; unweathered bedrock

Nickel family soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Parent Material: Alluvium derived from basalt
Slope: 8 to 35 percent
Surface fragments: About 25 percent gravel, about 20 percent cobbles, about 20 percent stones
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 5.1
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: High
Hydrologic group: B
Major Land Resource Area: 30; Mojave Desert

Land Resource Unit: 30-3AZ; Upper Mohave Desert
Ecological site name: Basalt Hills 10-13" p.z. Limy
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC333AZ
Present native vegetation: creosotebush, big galleta, bush muhly
Land capability (nonirrigated): 7c

Typical Profile

A—0 to 4 inches; extremely stony loam
Bw—4 to 23 inches; very cobbly silt loam
Bk1—23 to 51 inches; very cobbly loam
Bk2—51 to 60 inches; very cobbly sandy loam

137—Valena-Rock outcrop-Carri family complex, 1 to 25 percent slopes

Map Unit Setting

Landform: plateaus
Elevation: 5,000 to 5,200 feet (1,524 to 1,585 meters)
Mean annual precipitation: 14 to 18 inches (356 to 457 millimeters)
Mean annual air temperature: 48 to 52 degrees F. (9 to 11 degrees C.)
Mean annual soil temperature: 50 to 54 degrees F. (11 to 13 degrees C.)
Frost-free period: 135 to 150 days

Map Unit Composition

Valena and similar soils: 40 percent
Rock outcrop: 20 percent
Carri family and similar soils: 15 percent
Minor components: 25 percent

Properties and Qualities

Valena soils

Taxonomic Classification: Loamy, mixed, superactive, mesic Lithic Haplustalfs
Parent Material: Alluvium derived from igneous and metamorphic rock
Slope: 1 to 25 percent
Surface fragments: About 10 percent gravel
Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 0.6 to 2.0 in/hr (moderate)
Available water capacity total inches: 1.7
Shrink-swell potential: About 1.5 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA119AZ
Present native vegetation: turbinella oak, Utah juniper, desert ceanothus, pointleaf manzanita, black grama, broom snakeweed
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; sandy loam
Bw—2 to 7 inches; sandy loam
2Bt—7 to 12 inches; sandy clay loam
2R—12 inches; unweathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

Carri family soils

Taxonomic Classification: Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs
Parent Material: Alluvium derived from granite over residuum weathered from granite
Slope: 1 to 25 percent
Surface fragments: About 5 percent gravel
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 8.4
Shrink-swell potential: About 4.5 LEP (moderate)
Flooding hazard: None
Runoff class: Medium
Hydrologic group: B
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Sandy Loam Upland 12-16" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R038XA113AZ
Present native vegetation: pointleaf manzanita
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; sandy loam
Bt—2 to 34 inches; sandy clay loam
BC—34 to 44 inches; gravelly coarse sandy loam
2Btb—44 to 60 inches; loam

138—Nodman-Rock outcrop complex, 15 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 4,900 to 6,300 feet (1,494 to 1,921 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 62 degrees F. (14 to 17 degrees C.)
Mean annual soil temperature: 59 to 64 degrees F. (16 to 18 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Nodman and similar soils: 65 percent
Rock outcrop: 20 percent
Minor components: 15 percent

Properties and Qualities

Nodman soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Haplargids
Parent Material: Alluvium, colluvium, or residuum weathered from granite
Slope: 15 to 65 percent
Surface fragments: About 5 percent cobbles, about 25 percent gravel
Depth to restrictive feature: 5 to 20 inches to bedrock (paralithic); 5 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 0.7
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: D
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC355AZ
Present native vegetation: desert ceanothus, turbinella oak, Colorado pinyon, Opuntia, banana yucca, singleleaf pinyon, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; gravelly sandy loam
Bt—2 to 10 inches; very gravelly sandy clay loam
2Cr1—10 to 17 inches; weathered bedrock
2Cr2—17 to 60 inches; weathered bedrock

Rock outcrop

Exposures of bedrock, typically barren but may have sparse vegetation growing in cracks and crevices or in thin layers of alluvium or colluvium.

139—Nodman-Romero family complex, 15 to 65 percent slopes

Map Unit Setting

Landform: hills and mountains
Elevation: 4,900 to 6,200 feet (1,494 to 1,890 meters)
Mean annual precipitation: 12 to 16 inches (305 to 406 millimeters)
Mean annual air temperature: 57 to 62 degrees F. (14 to 17 degrees C.)
Mean annual soil temperature: 59 to 64 degrees F. (16 to 18 degrees C.)
Frost-free period: 200 to 230 days

Map Unit Composition

Nodman and similar soils: 60 percent
Romero family and similar soils: 20 percent
Minor components: 20 percent

Properties and Qualities

Nodman soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Haplargids
Parent Material: Alluvium, colluvium, or residuum weathered from granite
Slope: 15 to 65 percent
Surface fragments: About 2 percent stones, about 15 percent cobbles, about 75 percent gravel
Depth to restrictive feature: 5 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Permeability: From 0.2 to 0.6 in/hr (moderately slow)
Available water capacity total inches: 0.7
Shrink-swell potential: About 5.0 LEP (moderate)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: C

Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Granitic/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC355AZ
Present native vegetation: desert ceanothus, turbinella oak, Colorado pinyon, Opuntia, banana yucca, singleleaf pinyon, desert needlegrass
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 1 inches; gravelly sandy loam
BA—1 to 6 inches; extremely gravelly sandy loam
Bt—6 to 12 inches; very cobbly sandy clay loam
2Cr—12 to 60 inches; weathered bedrock

Romero family soils

Taxonomic Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents
Parent Material: Alluvium and/or colluvium derived from metamorphic rock over residuum weathered from metamorphic rock
Slope: 15 to 65 percent
Surface fragments: About 65 percent gravel
Depth to restrictive feature: 5 to 20 inches to bedrock (paralithic); 5 to 20 inches to bedrock (paralithic); 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Permeability: From 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity total inches: 0.4
Shrink-swell potential: About 2.0 LEP (low)
Flooding hazard: None
Runoff class: Very high
Hydrologic group: C
Major Land Resource Area: 38; Mogollon Transition
Land Resource Unit: 38-1AZ; Mogollon Transition Interior Chaparral, Grassland, and Pinyon-Juniper Savannah
Ecological site name: Basalt/Schist Hills 10-13" p.z.
Other ecological sites may occur in this map unit and vary in extent between delineations.
Ecosystem site number: R030XC326AZ
Present native vegetation: Opuntia, Pleuraphis, banana yucca, Eriogonum, black grama, sideoats grama
Land capability (nonirrigated): 6c

Typical Profile

A—0 to 2 inches; very gravelly sandy loam
Bw—2 to 7 inches; extremely cobbly sandy loam
2Cr—7 to 21 inches; weathered bedrock
2R—21 inches; unweathered bedrock

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including

water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 2. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 1. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

Rangeland

In areas that have similar climate and topography, differences in the kind and amount of rangeland or forest understory vegetation are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

Table 3 shows, for each soil that supports vegetation suitable for grazing, the ecological site; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of each species. An explanation of the column headings in table 3 follows.

An *ecological site* is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of the site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Total dry-weight production is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth 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, the amount and distribution of precipitation and the 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. Yields are adjusted to a common percent of air-dry moisture content.

Characteristic vegetation—the grasses, forbs, and shrubs that make up most of the potential natural plant community on each soil is listed by common name. Under *rangeland composition*, 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 and on the grazing season.

Range management requires a knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is

available in chapter 4 of the "National Range and Pasture Handbook" (http://www.ftw.nrcs.usda.gov/glti/NRPH.html).

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

Forest Productivity

Table 4 can help forest owners or managers plan the use of soils for wood crops. It shows the potential productivity of the soils for wood crops.

In table 4, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet (http://nsscnt.nssc.nrcs.usda.gov/nfm/).

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Recreation

The soils of the survey area are rated in table 5 and table 6 according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 5 and 6 can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that

affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size

distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Table 7 shows the degree and kind of soil limitations that affect dwellings with and without basements, and small commercial buildings. Table 8 shows the degree and kind of soil limitations that affect local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is

inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Table 9 shows the degree and kind of soil limitations that affect septic tank absorption fields and sewage lagoons. Table 10 shows the degree and kind of soil limitations that affect sanitary landfills and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to

hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Table 11 gives information about the soils as potential sources of gravel and sand. Table 12 gives information about the soils as potential sources of topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 11, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

In table 12, the soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The soils are rated *good, fair,* or *poor* as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a

major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Water Management

Table 13 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 14 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2

percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 15 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 15, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect earthmoving operations.

Moist bulk density is the weight of soil (oven dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (K_{sat}) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 15, 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.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for plants and soil organisms.

Erosion factors are shown in table 15 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet

and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion 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 wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 16 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in evaluating soil amendments for fertility and stabilization and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites. Salinity affects the stability of soil if used as construction material and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated

soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Soil Features

Tables 17a and 17b give estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

In table 17a, a *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

In table 17b*, subsidence* is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

Table 18 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that

have a clay pan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table. Water table depths and other properties were not estimated in this survey.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 18 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2003). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 19 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Ustalf (*Ust*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haplustalfs (*Hapl*, meaning minimal horizonation, plus *ustalf*, the suborder of the Alfisols that has a ustic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Aridic* identifies the subgroup that is somewhat drier than the typical great group. An example is Aridic Haplustalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, superactive, mesic Aridic Haplustalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. An example is the Dutchflat series.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 2003). Unless otherwise indicated, colors in the descriptions are for dry soil. Following the pedon description is the range of important characteristics of the soils in the series.

Akela Series

Depth class: Very shallow and shallow
Drainage class: Well drained
Permeability: Moderate
Landform: Hills and mountains
Parent material: Alluvium and colluvium from volcanic rocks

Slope range: 1 to 70 percent
Elevation: 1,400 to 4,600 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Loamy skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents

Typical Pedon

Typical pedon of Akela extremely cobbly loam in an area of Akela-Rock outcrop-Rubble land complex, dry, 40 to 70 percent slopes; latitude of 34 degrees, 41 minutes, 35 seconds north and a longitude of 113 degrees, 30 minutes, 49 seconds west; 600 feet north and 600 feet west of the southeast corner of sec. 28, T. 16 N., R. 12 W.

A—0 to 1 inch; brown (10YR 5/3) extremely cobbly loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; 25 percent gravel, 40 percent cobble, 5 percent stone; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—1 to 5 inches; brown (10YR 5/3) extremely cobbly loam, brown (10YR 4/3) moist; weak very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; 30 percent gravel, 30 percent cobble, 5 percent stone; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2R—5 inches; rhyolite.

Range in Characteristics

Depth to bedrock: 4 to 20 inches
Calcium carbonate equivalent: 1 to 15 percent
Rock fragments: 35 to 75 percent gravel and cobble and/or stone

A horizon:
Hue: 7.5YR, 10YR
Value: 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bw horizon:
Hue: 7.5YR, 10YR
Value: 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: loam or sandy loam

Alko family

Depth class: Shallow and very shallow
Drainage class: Well drained
Permeability: Moderately rapid
Landform: Fan terraces
Parent material: Mixed fan alluvium from volcanic rocks
Slope range: 2 to 15 percent
Elevation: 1,800 to 3,500 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Loamy, mixed, superactive, thermic, shallow Typic Haplodurids

Typical Pedon

Typical pedon of Alko family cobbly loam in an area of Alko family cobbly loam, 2 to 15 percent slopes; latitude of 35 degrees, 01 minutes, 17 seconds north and a longitude of 114 degrees, 17 minutes, 11 seconds west; 1,450 feet south and 1,750 feet west of the northeast corner of sec. 22, T. 19 N., R. 19 W.

A—0 to 1 inch; light brown (7.5YR 6/4) cobbly loam, brown (7.5YR 4/4) moist; weak medium platy structure; slightly hard, friable, slightly sticky and nonplastic; common fine roots; many very fine vesicular pores; 23 percent calcium carbonate equivalent; violently effervescent; 10 percent gravel, 20 percent cobble; moderately alkaline (pH, 8.0); abrupt smooth boundary.

Bw—1 to 10 inches; light brown (7.5YR 6/4) gravelly loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; many very fine tubular pores; 28 percent calcium carbonate equivalent; violently effervescent; 25 percent gravel; moderately alkaline (pH 8.0); clear smooth boundary.

Bk—10 to 15 inches; light brown (7.5YR 6/4) gravelly loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; many very fine tubular pores; 33 percent calcium carbonate equivalent; rock fragments have thin calcium carbonate coats on the undersides; violently effervescent; 30 percent gravel; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Bqkm—15 to 31 inches; indurated duripan.

2C—31 to 60 inches; light brownish gray (10YR 6/2) extremely gravelly sand, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine irregular pores; 70 percent gravel; strongly effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

Use of the "Alko family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of

properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Depth to a duripan: 5 to 20 inches
Calcium carbonate equivalent: 25 to 35 percent
Rock fragments: 15 to 30 percent pan fragments and gravel

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bw and Bk horizons:
Hue: 7.5YR, 10YR
Value: 5 or 6, dry or moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loam
Rock fragments: 15 to 30 percent pan fragments and gravel
Effervescence: strong or violent

Amole Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 1 to 3 percent
Elevation: 1,500 to 2,700 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Sandy, mixed, thermic Typic Torriorthents

Typical Pedon

Typical pedon of Amole sandy loam in an area of Amole sandy loam, dry, 1 to 3 percent slopes; latitude of 34 degrees, 29 minutes, 20 seconds north and a longitude of 113 degrees, 44 minutes, 01 seconds west; 1,350 feet east and 150 feet north of the southwest corner of sec. 04, T. 13 N., R. 14 W.

A—0 to 1 inch; brown (10YR 5/3) sandy loam, brown (10YR 4/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few fine irregular pores; 10 percent gravel, noneffervescent slightly alkaline (pH 7.8); abrupt smooth boundary.

C1—1 to 19 inches; pale brown (10YR 6/3) sandy loam, brown (7.5YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine tubular pores; 10 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

C2—19 to 60 inches; pale brown (10YR 6/3) loamy coarse sand, brown (7.5YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; common very fine tubular pores; 10 percent gravel; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Range in Characteristics

A horizon:
Hue: 7.5YR, 10YR
Value: 4 or 5 moist
Chroma: 3 or 4, dry or moist

C horizons:
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, coarse sandy loam, loamy coarse sand, loamy sand or sand
Rock fragments: 10 to 25 percent gravel

Anthony Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Landform: Alluvial fans
Parent material: Alluvium derived from mixed rock sources
Slope range: 1 to 3 percent
Elevation: 2,000 to 3,800 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 230 days
Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents

Typical Pedon

Typical pedon of Anthony gravelly sandy loam in an area of Anthony-Dudleyville complex, 1 to 3 percent slopes; latitude of 34 degrees, 45 minutes, 09 seconds north and a longitude of 113 degrees, 40 minutes, 36 seconds west; 950 feet north and 2,400 feet west of the southeast corner of sec. 01, T. 16 N., R. 14 W.

A—0 to 1 inch; brown (10YR 5/3) gravelly sandy loam, brown (10YR 4/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine irregular pores, 15 percent gravel; noneffervescent; neutral (pH 7.0); abrupt smooth boundary.

C1—1 to 35 inches; brown (10YR 5/3) gravelly coarse sandy loam, brown (10YR 4/3) moist; massive;

soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine irregular pores; 15 percent gravel; slightly effervescent; neutral (pH 7.2); gradual smooth boundary.

C2—35 to 60 inches; brown (10YR 5/3) gravelly sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine irregular pores; 20 percent gravel; slightly effervescent; slightly alkaline (pH 7.4).

Range in Characteristics

Rock fragments: 10 to 35 percent gravel

A horizon:
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

C horizons:
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Effervescence: slight to strong

Aquarius Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landform: Plateaus
Parent material: Alluvium and colluvium from volcanic rock
Slope range: 10 to 25 percent
Elevation: 2,400 to 3,000 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Fine, smectitic, calcareous, thermic Vertic Torriorthents

Typical Pedon

Typical pedon of Aquarius very cobbly silt loam in an area of Aquarius-Akela-Rock outcrop complex, 1 to 25 percent slopes; latitude of 34 degrees, 29 minutes, 56 seconds north and a longitude of 113 degrees, 21 minutes, 55 seconds west; 1,700 feet south and 2,200 feet east of the northwest corner of sec. 01, T. 13 N., R. 11 W.

A1—0 to 2 inches; brown (7.5YR 5/3) very cobbly silt loam, dark brown (7.5YR 3/3) moist; moderate medium platy structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine roots; many fine tubular pores; 50 percent cobble; moderately alkaline (pH 8.0); clear wavy boundary.

A2—2 to 8 inches; brown (7.5YR 4/4) silty clay loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; many very fine roots; many very fine tubular pores; 10 percent cobble; slightly effervescent; slightly alkaline (pH 7.4); abrupt wavy boundary.

C1—8 to 24 inches; brown (7.5YR 4/4) cobbly silty clay, dark brown (7.5YR 3/4) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; many very fine roots; many very fine tubular pores; many pressure faces; 15 percent cobble and 5 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

C2—24 to 42 inches; strong brown (7.5YR 5/6) silty clay, strong brown (7.5YR 4/6) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common fine roots; common fine tubular pores; many pressure faces; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

2Btkb1—42 to 50 inches; strong brown (7.5YR 5/6) silty clay, strong brown (7.5YR 4/6) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; few fine roots; few fine tubular pores; many pressure faces; common black stains and common distinct clay films on faces of peds; 10 percent gravel; few medium soft calcium carbonate accumulations; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

2Btkb2—50 to 60 inches; pink (7.5YR 7/4) gravelly silty clay loam, light brown (7.5YR 6/4) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine roots; few fine tubular pores; few distinct clay films on faces of peds; 20 percent gravel; common coarse soft calcium carbonate accumulations; violently effervescent; moderately alkaline (pH 8.4).

Range in Characteristics

Rock fragments: 35 to 60 percent cobble on the surface; 0 to 20 percent cobble and pebbles in the control section.
Cracks: More than 1 centimeter wide to a depth of 20 inches or more that are open for more than 240 days in most years
Organic matter: less than 1 percent in the surface

A horizon:
Value: 4, 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

C horizons:
Value: 4 through 7 dry, 3 through 6 moist
Chroma: 4, 5 or 6, dry or moist
Texture: Clay, silty clay loam

The buried soil is not present in all pedons.

Arivaca taxadjunct

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Slow
Landform: Hills and mountains
Parent material: Alluvium from volcanic rocks
Slope range: 2 to 15 percent
Elevation: 4,000 to 5,500 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Fine, smectitic, thermic Ustic Haplargids

Typical Pedon

Typical pedon of Arivaca very cobbly silty clay loam in an area of Graham-Arivaca complex, 2 to 15 percent slopes; latitude of 35 degrees, 08 minutes, 52 seconds north and a longitude of 113 degrees, 25 minutes, 47 seconds west; 1,650 feet south and 640 feet west of the northeast corner of sec. 04, T. 20 N., R. 11 W.

A—0 to 2 inches; brown (7.5YR 5/2) very cobbly silty clay loam, brown (7.5YR 4/2) moist; moderate medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; many fine vesicular pores; 20 percent gravel, 35 percent cobble, and 2 percent stone; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

BA—2 to 6 inches; brown (7.5YR 4/2) cobbly silty clay, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine roots; common fine tubular pores; 5 percent gravel, 25 percent cobble; slightly effervescent; slightly alkaline (pH 7.4); clear wavy boundary.

2Bt1—6 to 17 inches; reddish brown (5YR 5/3) clay, reddish brown (5YR 4/3) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; common fine roots; common fine tubular pores; few faint clay films on faces of peds; 2 percent gravel; many pressure faces; slightly effervescent; slightly alkaline (pH 7.4); gradual wavy boundary.

2Bt2—17 to 30 inches; reddish brown (5YR 5/3) clay, reddish brown (5YR 4/3) moist; weak medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine roots; common fine tubular pores; few faint clay film on faces of peds; 5 percent gravel; many pressure faces; strongly effervescent; slightly alkaline (pH 7.4); abrupt wavy boundary.

3Bk—30 to 36 inches; pink (7.5YR 7/4) clay loam, brown (7.5YR 5/4) moist; moderate fine subangular blocky structure; hard, firm, moderately sticky and plastic few very fine roots; few fine tubular pores; 10 percent gravel; common medium soft calcium carbonate masses; violently effervescent; slightly alkaline (pH 7.8); abrupt irregular boundary.

4R—36 inches; andesite bedrock.

Range in Characteristics

These soils are a taxadjunct to the Arivaca series. This component does not have a petrocalcic horizon overlying bedrock.
Depth to bedrock: 20 to 40 inches
Effervescence: none to violent

A and BA horizons:
Hue: 5YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 2 or 3, dry or moist

Bt horizon:
Hue: 5YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4 dry or moist
Texture: clay loam, clay
Rock fragments: less than 25 percent

Bk horizon:
Hue: 5YR, 7.5YR
Value: 4 to 7 dry, 3 to 5 moist
Calcium carbonate equivalent: less than 15 percent

Arizo Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Moderately rapid over rapid
Flooding: None to rare in the winter; occasional to frequent in the summer
Landform: Flood plains and alluvial fans
Parent material: Alluvium derived from mixed rock sources
Slope range: 1 to 3 percent
Elevation: 1,400 to 4,600 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 200 to 230 days
Classification: Sandy skeletal, mixed, thermic Typic Torriorthents

Typical Pedon

Typical pedon of Arizo gravelly sandy loam in an area of Arizo-Franconia-Riverwash complex, 1 to 3 percent slopes; latitude of 35 degrees, 09 minutes, 21 seconds

north and a longitude of 114 degrees, 09 minutes, 31 seconds west; 200 feet south and 300 feet west of the northeast corner of sec. 02, T. 20 N., R. 18 W.

A—0 to 2 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; weak thin platy structure; slightly hard, friable, nonsticky and nonplastic; many very fine roots; few fine irregular pores; 30 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

C1—2 to 11 inches; light yellowish brown (10YR 6/4) gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 25 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

C2—11 to 15 inches; light yellowish brown (10YR 6/4) sandy loam, dark yellowish brown (10YR 3/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 10 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

C3—15 to 35 inches; pale brown (1OYR 6/3) extremely gravelly loamy sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 70 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

C4—35 to 60 inches; pale brown (1OYR 6/3) very gravelly loamy coarse sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine irregular pores; 50 percent gravel; strongly effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

Effervescence: slight to violent

A horizon:
Chroma: 3 or 4, dry or moist

C horizons:
Value: 3 or 4 moist
Chroma: 3 or 4 moist
Rock fragments: 35 to 70 percent gravel

Bartmus Series

Depth class: Very shallow and shallow
Drainage class: Well drained
Permeability: Moderate
Landform: Mesas
Parent material: Alluvium from volcanic rock
Slope range: 2 to 15 percent
Elevation: 4,000 to 4,200 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Loamy skeletal, mixed, superactive, thermic, shallow Ustic Haplodurids

Typical Pedon

Typical pedon of Bartmus very gravelly sandy loam in an area of Bartmus very gravelly sandy loam, 2 to 15 percent slopes; latitude of 35 degrees, 06 minutes, 11 seconds north and a longitude of 113 degrees, 32 minutes, 01 seconds west; 550 feet south and 1,100 feet east of the northwest corner of sec. 15, T. 20 N., R. 12 W.

A—0 to 2 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 5/3) moist; moderate thin platy structure; soft, very friable, slightly sticky and slightly plastic; common fine roots; common very fine irregular pores; 40 percent gravel: 10 percent cobble; slightly effervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bw—2 to 6 inches; brown (10YR 5/3) very gravelly sandy clay loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and moderately plastic; common fine roots; common very fine tubular pores; 40 percent gravel; strongly effervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

2Bkqm—6 to 19 inches; indurated hardpan with fractured thick laminar cap.

3R—19 inches; rhyolite.

Range in Characteristics

Depth to duripan: 5 to 18 inches
Depth to bedrock: 7 to 30 inches
Effervescence: slight to violent
Rock fragments: 35 to 75 percent gravel

A horizon:
Hue: 7.5YR, 10YR
Value: 4 through 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Reaction: neutral or slightly alkaline

Bw horizon:
Hue: 7.5YR, 10YR
Value: 4 or 5, dry or moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loam, sandy clay loam (15 to 25 percent clay)
Reaction: neutral or slightly alkaline

Bonita family

Depth class: Very deep
Drainage class: Well drained

Permeability: Slow
Landform: Mesas
Parent material: Alluvium from volcanic rocks
Slope range: 2 to 15 percent
Elevation: 3,800 to 5,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Fine, smectitic, thermic Typic Haplotorrerts

Typical Pedon

Typical pedon of Bonita family very cobbly silty clay loam in an area of Bonita family very cobbly silty clay loam, 2 to 10 percent slopes; latitude of 34 degrees, 44 minutes, 58 seconds north and a longitude of 113 degrees, 22 minutes, 32 seconds west; 30 feet north and 1,245 feet west of the southeast corner of sec. 02, T. 16 N., R. 11 W.

A—0 to 2 inches; dark reddish gray (5YR 4/2) very cobbly silty clay loam, dark reddish brown (5YR 3/2) moist; moderate fine granular structure; slightly hard, friable, slightly sticky and moderately plastic; many fine roots; few fine tubular pores; 10 percent gravel, 35 percent cobble, and 10 percent stone; noneffervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.

C1—2 to 21 inches; dark reddish gray (5YR 4/2) clay, dark reddish brown (5YR 3/2) moist; massive; very hard, very firm, very sticky and very plastic; common fine roots; few fine tubular pores; 5 percent gravel, 5 percent cobble; many pressure faces and shrinkage cracks; slightly effervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.

C2—21 to 35 inches; dark reddish gray (5YR 4/2) clay, dark reddish brown (5YR 3/2) moist; massive; very hard, very firm, very sticky and very plastic; common intersecting slickensides; common very fine roots; few fine tubular pores; 5 percent gravel, 5 percent cobble; slightly effervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.

2Btkb—35 to 60 inches; pink (7.5YR 8/4) very gravelly loam, pinkish gray (7.5YR 7/2) moist; weak medium subangular blocky structure; hard, firm, slightly sticky and moderately plastic; few very fine roots; few fine irregular pores; 35 percent gravel, 10 percent cobble; few faint clay films on faces of peds; many large soft masses; violently effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

Use of the "Bonita family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

A and C horizons:
Texture: clay or silty clay loam
Hue: 5YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 2 or 3, dry or moist

2Btb horizon:
Not present in all pedons.
Texture: loam or clay loam
Calcium carbonate: 15 to 30 percent
Rock fragments: 10 to 45 percent cobble and gravel

Brazito family

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapid
Landform: Flood plains
Flooding: None
Parent material: Alluvium derived from mixed rock sources
Slope range: 0 to 3 percent
Elevation: 1,500 to 1,600 feet
Mean annual precipitation: 7 to 10 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 230 to 250 days
Classification: Mixed, thermic Typic Torripsamments

Typical Pedon

Typical pedon of Brazito family sand in an area of Brazito family sand, 0 to 3 percent slopes; latitude of 34 degrees, 32 minutes, 03 seconds north and a longitude of 113 degrees, 35 minutes, 57 seconds west; 4,450 feet south and 100 feet west of the northeast corner of sec. 23, T. 14 N., R. 13 W.

A—0 to 7 inches; yellowish brown (10YR 5/4) sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; few very fine irregular pores; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C1—7 to 14 inches; yellowish brown (10YR 5/4) very fine sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine roots; few very fine tubular pores; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C2—14 to 28 inches; pale brown (10YR 6/3) fine sand, single grain; loose, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C3—28 to 60 inches; yellowish brown (10YR 5/4) very fine sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; slightly effervescent; moderately alkaline (pH 8.4).

Range in Characteristics

Use of the "Brazito family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Salinity (ECe): 2 to 12 dS/m
Sodicity (SAR): 4 to 20
Effervescence: Slight to violent

A horizon:
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: silt loam, fine sandy loam

C horizon:
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: fine sand, very fine sand

Bucklebar Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landform: Fan terraces
Parent material: Mixed igneous and metamorphic alluvium
Slope range: 1 to 3 percent
Elevation: 3,000 to 3,300 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Fine loamy, mixed, superactive, thermic Typic Haplargids

Typical Pedon

Typical pedon of Bucklebar sandy loam in an area of Bucklebar sandy loam, 1 to 3 percent slopes; latitude of 35 degrees, 14 minutes, 35 seconds north and a longitude of 114 degrees, 16 minutes, 49 seconds west; 200 feet south and 2,600 feet east of the northwest corner of sec. 02, T. 21 N., R. 19 W.

A—0 to 4 inches; yellowish brown (10YR 5/4) sandy loam, brown (10YR 4/3) moist; moderate thin platy structure; soft, very friable, slightly sticky, nonplastic; many very fine roots; many very fine irregular pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

BA—4 to 13 inches; yellowish red (5YR 4/6) sandy clay loam, dark reddish brown (5YR 3/4) moist; weak fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine roots; many fine tubular pores; common faint clay films lining pores; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bt1—13 to 22 inches; reddish brown (5YR 4/4) sandy clay loam; dark reddish brown (5YR 3/3) moist; weak fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine roots; many fine tubular pores; many faint clay films on face of peds and lining pores; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Bt2—22 to 30 inches; reddish brown (5YR 4/4) sandy clay loam, dark reddish brown (5YR 3/4) moist; weak fine prismatic structure parting to moderate fine and medium subangular blocky; hard, firm, moderately sticky and moderately plastic; many very fine roots; many very fine tubular pores; many faint clay films on face of peds and lining pores; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Btk—30 to 37 inches; reddish brown (5YR 4/4) sandy clay loam, dark reddish brown (5YR 3/3) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic, many very fine roots; many very fine tubular pores; common faint clay films on faces of peds; many very fine soft calcium carbonate masses; 10 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

C—37 to 60 inches; strong brown (7.5 YR 5/6) coarse sandy loam, brown (7.5YR 4/4) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 10 percent gravel; slightly effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

Calcium carbonate equivalent: less than 10 percent
Organic matter content: less than 1 percent

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

BA horizon:
Not present in all pedons.

Bt horizons:
Hue: 5YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist

Texture: sandy clay loam, clay loam
Rock fragments: less than 15 percent gravel

C horizon:
Not present in all pedons.

Cacique family

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Moderate
Landform: Fan terraces
Parent material: Mixed igneous and metamorphic alluvium
Slope range: 1 to 7 percent
Elevation: 1,800 to 2,400 feet
Mean annual precipitation: 7 to 10 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 230 to 250 days
Classification: Fine loamy, mixed, superactive, thermic Argic Petrocalcids

Typical Pedon

Typical pedon of Cacique family extremely gravelly loam in an area of Cacique family extremely gravelly loam, 1 to 7 percent slopes; latitude of 34 degrees, 36 minutes, 56 seconds north and a longitude of 114 degrees, 06 minutes, 32 seconds west; 1,400 feet south and 4,500 feet east of the northwest corner of sec. 26, T. 15 N., R. 18 W.

A—0 to 1 inch; brown (7.5YR 5/4) extremely gravelly loam, dark brown (7.5YR 3/4) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; noneffervescent; 15 percent gravel; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt1—1 to 8 inches; brown (7.5YR 5/4) gravelly sandy clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; soft, friable, moderately sticky and moderately plastic; common very fine roots; few very fine tubular pores; faint clay films on faces of peds and lining pores; noneffervescent; 15 percent gravel; moderately alkaline (pH 8.0); clear smooth boundary.

Btk—8 to 35 inches; yellowish red (5YR 5/6) gravelly clay loam, yellowish red (5YR 4/6) moist; moderate medium subangular blocky structure; slightly hard, friable, very sticky and very plastic; common very fine roots; common very fine tubular pores; common faint clay films on faces of peds and lining pores; few very fine calcium carbonate seams and filaments; strongly effervescent; 15 percent gravel; moderately alkaline (pH 8.0); abrupt smooth boundary

2Bkm—35 to 60 inches; calcium carbonate-cemented hardpan with troweled laminar cap.

Range in Characteristics

Use of the "Cacique family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Depth to calcium carbonate cemented hardpan: 20 to 40 inches
Depth to unconsolidated alluvium: 40 to 60 inches

A horizon:
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bt horizon:
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 to 6, dry or moist
Texture: clay loam, sandy clay loam
Rock fragments: 10 to 25 percent gravel

Caralampi Series

Depth class: Very deep
Drainage class: Well
Permeability: Moderately slow
Landform: Fan terraces
Parent material: Mixed fan alluvium from granitic rocks
Slope range: 15 to 50 percent
Elevation: 3,500 to 4,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Loamy-skeletal, mixed, superactive, thermic Ustic Haplargids

Typical Pedon

Typical pedon of Caralampi very gravelly loamy sand in an area of Tombstone-Caralampi-Eloma complex, 10 to 50 percent slopes; l,000 feet east and 1,400 feet south of the northwest corner of sec. 1, T.18 N., R.14 W.

A—0 to 3 inches; brown (7.5YR 5/3) very gravelly loamy sand, dark brown (7.5YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 15 percent cobble and 35 percent gravel; noneffervescent; neutral (pH 7.0); abrupt wavy boundary.

Bt1—3 to 18 inches; reddish brown (5YR 5/4) very gravelly sandy clay loam, dark reddish brown (5YR 3/4) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic;

many very fine roots; many very fine tubular pores; common distinct clay films on faces of peds; 50 percent gravel; noneffervescent; neutral (pH 7.2); clear wavy boundary.

Bt2—18 to 50 inches; strong brown (7.5YR 5/6) very gravelly sandy loam, strong brown (7.5YR 4/6) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; few faint clay films bridging sand grains; 45 percent gravel; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

2C—50 to 58 inches; reddish yellow (7.5YR 6/6) gravelly loamy sand, strong brown (7.5YR 5/6) moist; single grain, loose, nonsticky and nonplastic; few fine roots; few fine irregular pores; 25 percent gravel; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

3Bkb—58 to 60 inches; pink (7.5YR 8/3) gravelly loam, pink (7.5YR 7/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few fine tubular pores; 30 percent gravel; violently effervescent; many coarse soft calcium carbonate masses; moderately alkaline (pH 8.4).

Range in Characteristics

Effervescence: none to violent
Organic matter content: greater than 1 percent

A horizon:
Coarse fragments: 35 to 60 percent cobble and gravel

Bt horizons:
Texture: sandy loam, sandy clay loam, clay loam
Coarse fragments: 35 to 65 percent gravel

2C horizon:
Texture: loamy sand, sand
Coarse fragments: 15 to 35 percent gravel

3Bkb horizon:
Texture: loam, sandy loam, loamy sand, sand
Calcium carbonate equivalent: 15 to 30 percent

Carri family

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Landform: Plateaus
Parent material: Alluvium derived from granite over residuum weathered from granite
Slope: 1 to 25 percent
Elevation: 5,000 to 5,200 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs

Typical Pedon

Typical pedon of Carri family sandy loam in an area of Valena-Rock outcrop-Carri family complex, 1 to 25 percent slopes; latitude of 35 degrees, 12 minutes, 31 seconds north and a longitude of 113 degrees, 23 minutes, 11 seconds west; 600 feet south and 400 feet west of the northeast corner of sec. 13, T. 21 N., R. 11 W.

A—0 to 2 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine, fine, and medium interstitial pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt—2 to 34 inches; dark brown (10YR 3/3) sandy clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; few faint clay films on faces of peds and lining pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

BC—34 to 44 inches; brown (10YR 4/3) gravelly coarse sandy loam, dark brown (10YR 3/3) moist; massive; hard, friable, nonsticky and nonplastic; few fine, medium, and coarse roots; common very fine tubular pores; 20 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

2Btb—44 to 60 inches; brown (10YR 4/3) loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.8).

Range in Characteristics

Use of the "Carri family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Rock fragments: less than 10 percent in the particle-size control section

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist

Bt horizon:
Hue: 7.5YR, 10YR
Value: 3 to 6 dry, 2 to 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy clay loam, clay loam, loam

Carrizo Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Very rapid
Flooding: Occasional or frequent
Landform: Flood plains and alluvial fans
Parent material: Alluvium derived from mixed rock sources
Slope range: 1 to 8 percent
Elevation: 500 to 2,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Sandy□skeletal, mixed, hyperthermic Typic Torriorthents

Typical Pedon

Typical pedon of Carrizo extremely gravelly loamy sand in an area of Carrizo-Riverwash complex, 3 to 8 percent slopes; latitude of 35 degrees, 51 minutes, 23 seconds north and a longitude of 114 degrees, 39 minutes, 04 seconds west; 2,000 feet north and 3,700 feet west of the southeast corner of sec. 33, T. 29 N., R. 22 W.

A—0 to 1 inch; brown (10YR 5/3) extremely gravelly loamy sand, dark grayish brown (10YR 4/2) moist; weak fine granular; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; common fine tubular pores; 70 percent gravel, 5 percent cobble, and 1 percent stone; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C1—1 to 23 inches; brown (10YR 5/3) extremely gravelly loamy sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; common very fine roots; common fine irregular pores; 70 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

C2—23 to 60 inches; brown (10YR 5/3) extremely gravelly sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine irregular pores; 80 percent gravel; slightly effervescent; moderately alkaline (pH 8.2).

Range in Characteristics

Effervescence: slight to violent
Rock fragments: 35 to 85 percent gravel and cobble

A and C horizons:
Hue: 7.5YR, 10YR
Value: 4 to 7 dry, 2 to 6 moist
Chroma: 2 to 6 dry, 2 to 4 moist
Texture: coarse sand, sand, loamy coarse sand, loamy sand

Carrizo family

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Very rapid
Flooding: Frequent
Landform: Flood plains and alluvial fans
Parent material: Alluvium derived from mixed rock sources
Slope range: 1 to 3 percent
Elevation: 500 to 1,800 feet
Mean annual precipitation: 3 to 7 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Sandy□skeletal, mixed, hyperthermic Typic Torriorthents

Typical Pedon

Typical pedon of Carrizo family very gravelly loamy sand in an area of Carrizo family-Riverwash complex, 1 to 3 percent slopes; latitude of 34 degrees, 47 minutes, 54 seconds north and a longitude of 114 degrees, 10 minutes, 46 seconds west; 2,000 feet north and 750 feet west of the southeast corner of sec. 19, T. 16 1/2 N., R. 18 W.

A—0 to 1 inch; pale brown (10YR 6/3) very gravelly loamy sand, brown (10YR 5/3) moist; moderate thin platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots; few very fine irregular pores; 40 percent gravel, few cobble and stone; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C1—1 to 9 inches; pale brown (10YR 6/3) loamy sand, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; 10 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C2—9 to 33 inches; light yellowish brown (10YR 6/4) very gravelly coarse sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few fine and medium roots; common very fine irregular pores; 45 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C3—33 to 60 inches; light yellowish brown (10YR

6/4) very gravelly coarse sand; dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few fine roots; common very fine irregular pores; 40 percent gravel; slightly effervescent; moderately alkaline (pH 8.2).

Range in Characteristics

Use of the "Carrizo family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Effervescence: slight to violent
Rock fragments: 35 to 85 percent gravel in the particle-size control section

A horizon:
Not present in some pedons
Value: 6 or 7 dry

C horizons:
Value: 4 or 5 moist
Chroma: 3 or 4, dry and moist
Texture: loamy sand, coarse sand, sand

Castaneda Series

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Moderate
Landform: Fan terraces
Parent material: Mixed igneous and metamorphic alluvium
Slope range: 1 to 7 percent
Elevation: 1,600 to 4,000 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Fine-loamy, mixed, superactive, thermic Argic Petrocalcids

Typical Pedon

Typical pedon of Castaneda extremely gravelly loam in an area of Castaneda extremely gravelly loam, dry, 1 to 7 percent slopes; latitude of 34 degrees, 35 minutes, 41 seconds north and a longitude of 114 degrees, 05 minutes, 58 seconds west; 1,730 feet north and 2,120 feet east of the southwest corner of sec. 36, T. 15 N., R. 18 W.

A—0 to 1 inch; light brown (7.5YR 6/4) extremely gravelly loam, brown (7.5YR 5/4) moist; moderate medium platy structure; slightly hard, slightly sticky and slightly plastic; few fine roots; many fine tubular pores; 75 percent gravel with varnish on surface gravel; slightly effervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.)

BA—1 to 3 inches; brown (7.5YR 5/4) gravelly clay loam, brown (7.5YR 4/4) moist; moderate thin platy structure; hard, friable, moderately sticky and moderately plastic; few fine roots; many fine tubular pores; 20 percent gravel; slightly effervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bt—3 to 9 inches; yellowish red (5YR 5/6) clay loam, yellowish red (5YR 4/6) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; few faint clay films on faces of peds and lining pores; 5 percent gravel; slightly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Btk—9 to 17 inches; yellowish red (5YR 4/6) gravelly clay loam, dark reddish brown (5YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; 20 percent gravel; few distinct clay films on faces of peds; many medium soft rounded calcium carbonate masses; strongly effervescent, 15 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk—17 to 32 inches; pink (7.5YR 8/4) very gravelly loam, pink (7.5YR 7/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 40 percent gravel; weakly cemented with calcium carbonate; many medium soft calcium carbonate masses; violently effervescent, 20 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary.

2Bkm—32 to 41 inches; calcium carbonate cemented hardpan; abrupt smooth boundary.

3C—41 to 60 inches; pale brown (10YR 6/3) extremely gravelly loamy sand, brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine irregular pores; 65 percent gravel; violently effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

Depth to the calcic horizon: 9 to 20 inches
Depth to petrocalcic horizon: 20 to 40 inches

A and BA horizons:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
The BA horizon is absent in some pedons.

Bt and Btk horizons:
Hue: 7.5YR, 5YR

Value: 4 through 6 dry, 3 through 5 moist
Chroma: 4 or 6, dry or moist
Texture: clay loam, sandy clay loam (averages 20 to 35 percent clay)
Rock fragments: 5 to 35 percent gravel

Bk horizon:
Hue: 7.5YR, 5YR
Value: 6 through 8 dry, 5 through 7 moist
Chroma: 3 through 6, dry or moist
Rock fragments: 35 to 65 percent gravel

C horizon:
Value: 6 or 7 dry, 4 through 6 moist
Chroma: 3 or 4, dry or moist
Texture: sand or loamy sand
Rock fragments: average greater than 60 percent gravel

Cave Series

Depth class: Very shallow and shallow
Drainage class: Well drained
Permeability: Moderately rapid
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 10 to 35 percent
Elevation: 1,900 to 4,000 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost free period: 200 to 250 days
Classification: Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids

Typical Pedon

Typical pedon of Cave gravelly sandy loam in an area of Cave gravelly sandy loam, dry, 10 to 35 percent slopes; latitude of 34 degrees, 26 minutes, 29 seconds north and a longitude of 113 degrees, 50 minutes, 09 seconds west; 1,400 feet south and 2,400 feet east of the northwest corner of sec. 28, T. 13 N., R. 15 W.

A—0 to 1 inch; yellowish brown (10YR 5/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate thin platy structure; slightly hard, friable, nonsticky and nonplastic; few very fine roots; many fine vesicular pores; 25 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw—1 to 7 inches; pale brown (10YR 6/3) gravelly coarse sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine roots; common very fine tubular pores; 25 percent gravel; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

2Bkm—7 to 28 inches; calcium carbonate cemented hardpan with a continuous troweled surface.

2C—28 to 60 inches; light yellowish brown (10YR 6/4) extremely gravelly loamy coarse sand, yellowish brown (10YR 5/4) moist; massive; hard, very friable, nonsticky and nonplastic; many very fine irregular pores; 70 percent gravel; violently effervescent; discontinuous areas of thin pan material; moderately alkaline (pH 8.4).

Range in Characteristics

Depth to cemented hardpan: 4 to 20 inches
Depth to unconsolidated alluvium: 20 to 60 inches

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bw horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Rock fragments: less than 35 percent gravel

Cellar Series

Depth class: Shallow and very shallow
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landform: Hills and mountains
Parent material: Mixed igneous and metamorphic alluvium and colluvium dominated by granite.
Slope range: 5 to 60 percent
Elevation: 1,800 to 4,800 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250
Classification: Loamy skeletal, mixed, superactive, nonacid, thermic Lithic Torriorthents

Typical Pedon

Typical pedon of Cellar very gravelly sandy loam in an area of Cellar-Rock outcrop complex, dry, 20 to 60 percent slopes; latitude of 34 degrees, 33 minutes, 36 seconds north and a longitude of 114 degrees, 06 minutes, 22 seconds west; 300 feet south and 30 feet east of the northwest corner of sec. 13, T. 14 N., R. 18 W.

A—0 to 2 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak thin platy structure; slightly hard,

friable, nonsticky and nonplastic; common fine roots; many fine vesicular pores; 40 percent gravel, 10 percent cobble, 5 percent stone; noneffervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—2 to 10 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many fine roots; common fine vesicular pores; 50 percent gravel; noneffervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Cr—10 to 13 inches; slightly weathered granite; abrupt wavy boundary.

2R—13 inches; granite.

Range in Characteristics

Depth to bedrock: 4 to 20 inches

A horizon:
Rock fragments: 35 to 55 percent gravel, cobble, and stone

Bw horizon:
Texture: sandy loam, loam
Rock fragments: 35 to 60 percent gravel

Cherioni Series

Depth class: Very shallow and shallow
Drainage class: Somewhat excessively drained
Permeability: Moderate
Landform: Fan terraces
Parent material: Alluvium from volcanic rock
Slope range: 2 to 15 percent
Elevation: 1,600 to 2,900 feet
Mean annual precipitation: 3 to 7 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids

Typical Pedon

Typical pedon of Cherioni very cobbly loam in an area of Cherioni very cobbly loam, 2 to 15 percent slopes; latitude of 34 degrees, 20 minutes, 34 seconds north and a longitude of 113 degrees, 39 minutes, 47 seconds west; 1,500 feet south and 800 feet west of the northeast corner of sec. 36, T. 12 N., R. 14 W.

A—0 to 1 inch; light yellowish brown (10YR 6/4) very cobbly loam, dark yellowish brown (10YR 4/4) moist; moderate thin platy structure; slightly hard, very friable, very sticky and moderately plastic; few very fine roots; few fine vesicular pores; 25 percent gravel, 25 percent cobble, 1 percent boulder; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—1 to 8 inches; brown (7.5YR 5/4) very gravelly clay loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, very sticky and very plastic; common very fine roots; common very fine tubular pores; 40 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bkqm—8 to 10 inches; silica and calcium carbonate cemented hardpan with a discontinuous troweled surface.

2R—10 inches; fractured basalt.

Range in Characteristics

Depth to duripan: 5 to 20 inches; has a thin (1/4 inch to 2 inches) laminar cap in some pedons
Depth to bedrock: 7 to 20 inches
Effervescence: strong to violent

A horizon:
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Rock fragments: 25 to 80 percent stone, cobble, and gravel
Texture: clay loam, loam

Bw horizon:
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Rock fragments: 35 to 60 percent, predominantly gravel
Texture: clay loam, loam

Chiricahua Series

Depth class: Shallow to bedrock (paralithic)
Drainage class: Well drained
Permeability: Slow
Landform: Hills and mountains
Parent material: Alluvium derived from granite
Slope: 5 to 35 percent
Elevation: 3,400 to 5,600 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Clayey, mixed, superactive, thermic, shallow Ustic Haplargids

Typical Pedon

Typical pedon of Chiricahua very gravelly sandy loam in an area of Romero-Chiricauhua-Rock outcrop

complex, 5 to 35 percent slopes; about 600 feet east and 2,400 feet south of the northwest corner of sec. 36, T. 16 N., R 15 W.

A—0 to 1 inch; brown (10YR 5/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 40 percent gravel, 10 percent cobble; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

Bt1—1 to 6 inches; yellowish brown (10YR 5/4) sandy clay, brown (7.5YR 4/4) moist; moderate very fine subangular blocky structure; hard, firm, slightly sticky and moderately plastic; common very fine roots; common very fine tubular pores; common faint clay films on faces of peds and lining pores; 10 percent gravel; noneffervescent; neutral (pH 7.2); clear wavy boundary.

Bt2—6 to 14 inches; yellowish brown (10YR 5/4) sandy clay, dark yellowish brown (10YR 4/6) moist; moderate very fine subangular blocky structure; hard, firm, slightly sticky and moderately plastic; few very fine roots; common very fine tubular pores; common faint clay films on faces of peds and lining pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.4); abrupt smooth boundary.

Bt3—14 to 16 inches; yellowish brown (10YR 5/4) gravelly sandy clay, dark yellowish brown (10YR 4/6) moist; moderate very fine subangular blocky structure; hard, firm, slightly sticky and moderately plastic; few very fine roots; common very fine tubular pores; common faint clay films on faces of peds and lining pores; 30 percent gravel; noneffervescent; slightly alkaline (pH 7.4); abrupt smooth boundary.

2Cr—16 to 22 inches; slightly weathered granite.

2R—22 inches; unweathered granite.

Range in Characteristics

Depth to paralithic contact: 10 to 20 inches
Depth to lithic contact: 20 to 40 inches

A horizon:
Rock fragments: 35 to 70 percent gravel

Bt horizons:
Texture: sandy clay, clay
Rock fragments: less than 35 percent gravel

Chuckawalla Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Elevation: 600 to 1,800 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 270 to 320 days
Classification: Loamy-skeletal, mixed, superactive, hyperthermic Typic Calciargids

Typical Pedon

Typical pedon of Chuckawalla extremely gravelly silt loam in an area of Chuckawalla-Riverbend complex, 2 to 15 percent slopes; latitude of 34 degrees, 58 minutes, 42 seconds north and a longitude of 114 degrees, 25 minutes, 10 seconds west; 1,500 feet south and 500 feet east of the northwest corner of sec. 04, T. 18 N., R. 20 W.

E—0 to 1 inch; light brown (7.5YR 6/4) extremely gravelly silt loam, brown (7.5YR 4/4) moist; moderate medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; many fine vesicular pores; 75 percent gravel, strongly effervescent; 15 percent cobble; slightly alkaline (pH 7.6); abrupt smooth boundary.

Btz—1 to 5 inches; reddish brown (5YR 5/3) gravelly loam, reddish brown (5YR 4/4) moist; weak fine subangular blocky structure; slightly sticky and slightly plastic; few fine roots; few fine irregular pores; common faint clay films on faces of peds; few fine salt crystals; strongly effervescent; 25 percent gravel; slightly alkaline (pH 7.8); abrupt smooth boundary.

Btkz—5 to 20 inches; brown (7.5YR 5/4) very gravelly loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; few fine irregular pores; few thin clay films on faces of peds; few fine salt crystals; common fine soft calcium carbonate masses; violently effervescent; 55 percent gravel; moderately alkaline (pH 7.8); clear wavy boundary.

Ck1—20 to 29 inches; light brown (7 5YR 6/4) extremely gravelly loamy sand, brown (7.5YR 5/4) moist; massive; slightly hard; friable, nonsticky and nonplastic; few fine irregular pores; violently effervescent; 70 percent gravel; moderately alkaline (pH 8.0); abrupt wavy boundary.

Ck2—29 to 34 inches; pink (7.5YR 8/3) very gravelly sandy loam, gray (7.5YR 7/3) moist; massive; hard, firm, nonsticky and nonplastic; few fine irregular pores; common fine soft calcium carbonate masses; violently effervescent; 55 percent gravel; moderately alkaline (pH 8.0); abrupt wavy boundary.

Ck3—34 to 60 inches; pinkish gray (7.5YR 6/3) very gravelly loamy sand, light brown (7.5YR 6/3) moist; massive; hard, firm, nonsticky and nonplastic; few fine irregular pores; many large soft calcium carbonate masses, strongly effervescent; 55 percent gravel; moderately alkaline (pH 8.0).

Range in Characteristics

Salinity: slight to strong
Rock fragments: average 35 to 60 percent in the control section.
Calcium carbonate equivalent: 15 to 25 percent

E horizon:
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Btz horizon:
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist

Ck horizons:
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: loamy sand, sandy loam

Chuckawalla family

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 2 to 15 percent
Elevation: 600 to 1,800 feet
Mean annual precipitation: 3 to 7 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Loamy-skeletal, mixed, superactive, hyperthermic Typic Calciargids

Typical Pedon

Typical pedon of Chuckawalla family extremely gravelly silt loam in an area of Chuckawalla-Riverbend families complex, 2 to 15 percent slopes; latitude of 34 degrees, 17 minutes, 03 seconds north and a longitude of 113 degrees, 36 minutes, 59 seconds west; 1,500 feet south and 2,500 feet west of the northeast corner of sec. 21, T. 11 N., R. 13 W.

Surface fragment coverage: 80 to 100 percent gravel as desert pavement.

A—0 to 1 inches; reddish yellow (7.5YR 6/6) extremely gravelly silt loam, strong brown (7.5YR 5/6) moist; moderate medium platy structure; hard, friable, moderately sticky and moderately plastic; common very fine roots; many very fine irregular pores; 5 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Btz—1 to 10 inches; red (2.5YR 4/6) very gravelly loam, dark red (2.5YR 3/6) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine tubular pores; few faint clay films on faces of peds and lining pores; few fine masses of salt; few thin soft calcium carbonate filaments and threads; strongly effervescent; 45 percent gravel; moderately alkaline (pH 8.4); clear smooth boundary.

Btk—10 to 23 inches; strong brown (7.5YR 4/6) very gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; few faint clay films on faces of peds and lining pores; few thin soft calcium carbonate masses and filaments; strongly effervescent; 35 percent gravel; moderately alkaline (pH 8.2); abrupt smooth boundary.

2Bk—23 to 60 inches; light reddish brown (5YR 6/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; hard, very friable, nonsticky and nonplastic; common very fine tubular pores; common moderately thick calcium carbonate coatings on faces of peds and gravel; violently effervescent; 65 percent gravel; moderately alkaline (pH 8.2).

Range in Characteristics

Use of the "Chuckawalla family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Salinity: slight to strong

A horizon:
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 4 or 5 moist
Chroma: 4 through 6, dry or moist

Btz horizon:
Hue: 2.5YR, 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Few to many fine masses of salt

Bk horizons:
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4

Texture: loamy sand, fine sandy loam, sandy loam

Cipriano Series

Depth class: Very shallow and shallow
Drainage class: Somewhat excessively drained
Permeability: Moderate
Landform: Fan terraces
Parent material: Alluvium derived from volcanic rock
Slope range: 2 to 10 percent
Elevation: 500 to 1,500 feet
Mean annual precipitation: 3 to 7 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325
Classification: Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids

Typical Pedon

Typical pedon of Cipriano very stony loam in an area of Cipriano very stony loam, 2 to 10 percent slopes; latitude of 34 degrees, 21 minutes, 48 seconds north and a longitude of 113 degrees, 42 minutes, 22 seconds west; 600 feet north and 2,200 feet east of the southwest corner of sec. 22, T. 12 N., R. 14 W.

A—0 to 1 inch; light brown (7.5YR 6/4) very stony loam, brown (7.5YR 4/4) moist; weak medium platy structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine vesicular pores; 20 percent gravel and gravel-size pan fragments, 10 percent cobble, 25 percent stone; strongly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bw—1 to 5 inches; light brown (7.5YR 6/4) very gravelly loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 35 percent gravel and gravel-size pan fragments; violently effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bk—5 to 10 inches; pink (7.5YR 7/4) very gravelly loam, light brown (7.5YR 6/4) moist; massive; soft, friable, slightly sticky and slightly plastic; common very fine roots; few very fine vesicular pores; 40 percent gravel and gravel-size pan fragments; calcium carbonate coatings on underside of gravel; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Bkqm—10 inches; indurated silica-calcium carbonate-cemented duripan with laminar layer on upper surface.

Range in Characteristics

Depth to duripan: 4 to 20 inches
Rock fragments: 35 to 60 percent gravel and cobble
Effervescence: slight to violent

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Rock fragments: 35 to 60 percent stone, cobble and/or gravel

Bw and Bk horizons:
Value: 6 or 7 dry, 4 to 6 moist
Chroma: 3 or 4, dry or moist
Calcium carbonate: 15 to 40 percent

Cline Series

Depth class: Very shallow and shallow
Drainage class: Well drained
Permeability: Moderate
Landform: Mesas
Parent material: Alluvium from volcanic rock
Slope range: 2 to 15 percent
Elevation: 2,400 to 4,900 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids

Typical Pedon

Typical pedon of Cline very stony loam in an area of Cline very stony loam, 2 to 15 percent slopes; latitude of 34 degrees, 31 minutes, 41 seconds north and a longitude of 113 degrees, 24 minutes, 27 seconds west; 1,600 feet south and 50 feet east of the northwest corner of sec. 27, T. 14 N., R. 11 W.

A—0 to 1 inch; yellowish brown (10YR 5/4) very stony loam, dark yellowish brown (10YR 4/4) moist; weak thin platy structure; soft, very friable, slightly sticky and moderately plastic; few very fine roots; few very fine tubular pores; 25 percent gravel, 15 percent stone, 5 percent cobble; violently effervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bw—1 to 11 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic;

common very fine root; common very fine tubular pores; 25 percent gravel and 10 percent cobble; violently effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

2Bkqm—11 to 18 inches: indurated duripan with a troweled laminar cap.

3R—18 inches: basalt bedrock.

Range in Characteristics

Depth to duripan: 4 to 18 inches
Depth to bedrock: 7 to 20 inches

A horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4 dry or moist
Effervescence: strong or violent

Bw horizon:
Texture: Fine sandy loam, sandy loam, loam (15 to 25 percent clay)
Rock fragments: 35 to 70 percent gravel, cobble and/or stone.

Continental Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 2 to 15 percent
Elevation: 1,600 to 3,700 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Fine, mixed, superactive, thermic Vertic Calciargids

Typical Pedon

Typical pedon of Continental very gravelly sandy loam in an area of Continental-Tres Hermanos complex, 2 to 15 percent slopes; latitude of 34 degrees, 34 minutes, 25 seconds north and a longitude of 113 degrees, 46 minutes, 43 seconds west; 3,950 feet south and 150 feet west of the northeast corner of sec. 12, T. 14 N., R. 15 W.

A—0 to 1 inch; brown (7.5YR 5/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; moderate thin platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine irregular pores; 35 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Btl—1 to 19 inches; reddish brown (5YR 4/4) very gravelly sandy clay loam, yellowish red (5YR 4/6) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine roots; common very fine tubular pores; few faint clay films on faces of peds and lining pores; 55 percent gravel; noneffervescent; slightly alkaline (pH 7.6); clear smooth boundary.

Bt2—19 to 39 inches; brown (7.5YR 4/4) clay, strong brown (7.5YR 4/6) moist; moderate medium prismatic structure parting to moderate medium subangular blocky; slightly hard, friable, very sticky and very plastic; few medium roots; common very fine tubular pores; common distinct clay films on faces of peds and lining pores; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bk—39 to 60 inches; light yellowish brown (10YR 6/4) clay loam, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; violently effervescent; common very fine soft calcium carbonate masses; moderately alkaline (pH 8.0).

Range in Characteristics

Depth to calcic horizon: 20 to 40 inches
Rock fragments: 0 to 35 percent gravel or cobble

A horizon:
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: loam, sandy loam

Bt horizons:
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 or 6 moist
Texture: clay loam, sandy clay, clay

Bk horizon:
Value: 5 or 6 dry, 4 or 5 moist
Calcium carbonate equivalent: 15 to 25 percent within the calcic horizon

Coolidge Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Landform: Stream terraces and fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 1 to 5 percent
Elevation: 600 to 1,200 feet

Mean annual precipitation: 3 to 7 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Coarse-loamy, mixed, superactive, hyperthermic Typic Haplocalcids

Typical Pedon

Typical pedon of Coolidge gravelly sandy loam in an area of Coolidge-Denure complex, 1 to 7 percent slopes; latitude of 34 degrees, 43 minutes, 58 seconds north and a longitude of 114 degrees, 11 minutes, 53 seconds west; 700 feet south and 1,300 feet west of the northeast corner of sec. 13, T. 16 N., R. 19 W.

A—0 to 2 inches; light yellowish brown (10YR 6/4) gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine irregular pores; 15 percent gravel; strongly effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bk1—2 to 27 inches; light yellowish brown (10YR 6/4) sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; many very fine soft calcium carbonate seams and filaments; violently effervescent; 10 percent gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk2—27 to 46 inches; light brown (7.5YR 6/3) sandy loam, brown (7.5YR 5/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few very fine irregular pores; common soft calcium carbonate masses in stratified lenses, few fine calcium carbonate coatings on the undersides of gravel; violently effervescent; 5 percent gravel; moderately alkaline (pH 8.0); clear smooth boundary.

C—46 to 60 inches; light brown (7.5YR 6/4) gravelly sandy loam, brown (7.5YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; few very fine irregular pores; 30 percent gravel; slightly effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

A horizon:
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 through 4, dry or moist

Bk horizons:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 through 4, dry or moist
Calcium carbonate: 15 to 25 percent

C horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 through 4, dry or moist

Coolidge family

Depth class: Very deep
Drainage class: Well drained
Landform: Stream terraces and fan terraces
Parent material: Mixed alluvium
Slope range: 1 to 7 percent
Permeability: Moderately rapid
Elevation: 500 to 1,200 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost free period: 250 to 325 days
Classification: Coarse-loamy, mixed, superactive, hyperthermic Typic Haplocalcids

Typical Pedon

Typical pedon of Coolidge family gravelly loam in an area of Coolidge-Denure families complex, 1 to 7 percent slopes; latitude of 34 degrees, 46 minutes, 06 seconds north and a longitude of 114 degrees, 28 minutes, 02 seconds west; 1,400 feet north, 800 feet west of the southeast corner of sec. 14, T. 16 N., R. 21 W.

A—0 to 2 inches; brown (7.5YR 5/4) gravelly loam, brown (7.5YR 4/4) moist; moderate medium platy structure; soft, friable, slightly sticky and slightly plastic; common fine roots; many very fine vesicular pores; few fine soft calcium carbonate masses and calcium carbonate coatings on undersides of gravel; strongly effervescent; 30 percent gravel; slightly alkaline (pH 7.8); clear wavy boundary.

Bk1—2 to 8 inches; light brown (7.5YR 6/4) gravelly sandy loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; few fine soft calcium carbonate masses and calcium carbonate coatings on undersides of gravel; strongly effervescent; 15 percent gravel; slightly alkaline (pH 7.8); clear wavy boundary.

Bk2—8 to 29 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; few fine soft calcium carbonate masses and calcium carbonate coatings on undersides of gravel; strongly effervescent; 5 percent gravel; slightly alkaline (pH 7.8); clear wavy boundary.

Bk3—29 to 41 inches; light brown (7.5YR 6/3) sandy

loam, brown (7.5YR 5/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; few fine roots; common fine tubular pores; common fine soft calcium carbonate masses; strongly effervescent; 10 percent gravel; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Bk4—41 to 60 inches; light brown (7.5YR 6/4) gravelly sand, brown (7.5YR 5/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots, many fine irregular pores; few fine soft calcium carbonate masses; strongly effervescent; 25 percent gravel; moderately alkaline (pH 8.0).

Range in Characteristics

Depth to a calcic horizon: 8 to 30 inches
Calcium carbonate equivalent: 15 to 30 percent within the calcic horizon

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 through 4, dry or moist

Bk horizons:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 through 4, dry or moist
Texture: sandy loam, loam

2Bk4 horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 through 4, dry or moist

Courthouse family

Depth class: Very shallow and shallow
Drainage class: Well drained
Permeability: Moderate
Landform: Hills and mountains
Parent material: Alluvium and colluvium from volcanics
Slope range: 15 to 70 percent
Elevation: 3,800 to 5,200 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days.
Classification: Loamy skeletal, mixed, superactive, calcareous, thermic Lithic Ustic Torriorthents

Typical Pedon

Typical pedon of Courthouse family very cobbly loam in an area of Courthouse family-Rock outcrop-Rubble land complex, 40 to 70 percent slopes; latitude of 34 degrees, 43 minutes, 45 seconds north and a longitude of 113 degrees, 24 minutes, 01 seconds west; 2,200 feet south and 1,900 feet east of the northwest corner of sec. 15, T. 16 N., R. 11 W.

A—0 to 2 inches; brown (10YR 5/3) very cobbly loam, brown (10YR 4/3) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 5 percent stone, 20 percent cobble, 20 percent gravel; strongly effervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

C—2 to 12 inches; brown (10YR 5/3) extremely gravelly loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common fine tubular pores; 70 percent gravel; strongly effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

2R—12 inches; basalt bedrock.

Range in Characteristics

Use of the "Courthouse family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Depth to bedrock: 4 to 20 inches
Calcium carbonate equivalent: 1 to 15 percent
Texture: loam, sandy loam

A horizon:
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

C horizon:
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Rock fragments: 35 to 75 percent gravel, cobble and/or stone

Denure Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landform: Stream terraces and fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 1 to 7 percent
Elevation: 600 to 1,200 feet
Mean annual precipitation: 3 to 7 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days

Classification: Coarse-loamy, mixed, superactive, hyperthermic, Typic Haplocambids

Typical Pedon

Typical pedon of Denure loamy sand in an area of Coolidge-Denure complex, 1 to 7 percent slopes; latitude of 34 degrees, 44 minutes, 22 seconds north and a longitude of 114 degrees, 13 minutes, 10 seconds west; 3,700 feet south and 2,800 feet east of the northwest corner of sec. 11, T. 16 N., R. 19 W.

A—0 to 2 inches; light yellowish brown (10YR 6/4) loamy sand, yellowish brown (10YR 5/4) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; common very fine foots; few fine irregular pores slightly effervescent; 10 percent gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw1—2 to 7 inches; light yellowish brown (10YR 6/4) loamy sand, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few fine irregular pores; strongly effervescent; 10 percent gravel; moderately alkaline (pH 8.0); clear smooth boundary.

Bw2—7 to 18 inches; strong brown (7.5YR 5/6) gravelly coarse sandy loam, strong brown (7.5YR 4/6) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common fine interstitial pores; slightly effervescent; 25 percent gravel; moderately alkaline (pH 8.2); clear smooth boundary.

Bk—18 to 27 inches; strong brown (7.5YR 4/6) coarse sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common fine interstitial pores; slightly effervescent with areas that are noneffervescent; 10 percent gravel; moderately alkaline (pH 8.2); clear smooth boundary.

C—27 to 60 inches; strong brown (7.5YR 4/6) coarse sandy loam, brown (7.5YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; common fine interstitial pores; noneffervescent with areas that are slightly effervescent; 10 percent gravel; moderately alkaline (pH 8.2).

Range in Characteristics

Rock fragments: 10 to 35 percent
Effervescence: slight to violent
Calcium carbonate equivalent: less than 15 percent

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bw horizons:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 through 6, dry or moist
Texture: coarse sandy loam, sandy loam

Bk horizon:
Hue: 7.5YR, 10YR
Value: 4 through 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, coarse sandy loam

C horizon:
Hue: 7.5YR, 10YR
Value: 4 through 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, coarse sandy loam

Denure family

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landform: Stream terraces and fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 1 to 7 percent
Elevation: 500 to 1,200 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Coarse-loamy, mixed, superactive, hyperthermic Typic Haplocambids

Typical Pedon

Typical pedon of Denure family very gravelly loamy sand in an area of Coolidge-Denure families complex, 1 to 7 percent slopes; latitude of 34 degrees, 46 minutes, 30 seconds north and a longitude of 114 degrees, 28 minutes, 39 seconds west; 1,500 feet south and 1,500 feet east of the northwest corner of sec. 14, T. 16 N., R. 21 W.

A—0 to 1 inch; light brown (7.5YR 6/4) very gravelly loamy sand, brown (7.5YR 4/4) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; common fine roots; few fine irregular pores; strongly effervescent; 45 percent gravel; slightly alkaline (pH 7.4); abrupt wavy boundary.

AB—1 to 11 inches; reddish yellow (7.5YR 6/6) loamy sand, strong brown (7.5YR 5/6) moist; single grain; loose, nonsticky and nonplastic; common fine roots; few fine irregular pores; strongly effervescent; 20 percent gravel; slightly alkaline (pH 7.4); abrupt wavy boundary.

Bw—11 to 32 inches; reddish yellow (7.5YR 6/6) sandy loam, strong brown (7.5YR 5/6) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; calcium carbonate coatings on undersides of gravel, few fine calcium carbonate filaments; 5 percent gravel; strongly effervescent; slightly alkaline (pH7.8); clear wavy boundary.

Bk—32 to 60 inches; reddish yellow (7.5YR 6/6) sandy loam; strong brown (7.5YR 4/6) moist; massive; soft, friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; common fine soft calcium carbonate masses; violently effervescent; 5 percent gravel; moderately alkaline (pH 8.2).

Range in Characteristics

Use of the "Denure family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Effervescence: slight to violent

A horizon:
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Rock fragments: 15 to 50 percent gravel

AB horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 through 6, dry or moist
Texture: loamy sand, coarse sandy loam, sandy loam

Bw horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 through 6, dry or moist
Texture: sandy loam, loam

Bk horizon:
Hue: 7.5YR, 10YR
Value: 4 through 6 dry, 3 through 5 moist
Chroma: 3 through 6, dry or moist
Texture: sandy loam, coarse sandy loam
Calcium carbonate equivalent: less than 15 percent
Rock fragments: 5 to 35 percent

Dudleyville Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Very rapid
Flooding: None
Landform: stream terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 1 to 3 percent
Elevation: 2,000 to 3,800 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents

Typical Pedon

Typical pedon of Dudleyville gravelly loamy sand in an area of Dudleyville-Vinton-Riverwash complex, dry, 1 to 3 percent slopes; latitude of 34 degrees, 28 minutes, 07 seconds north and a longitude of 113 degrees, 38 minutes, 20 seconds west; 1,900 feet south and 1,500 feet west of the northeast corner of sec. 17, T. 13 N., R. 13 W.

A—0 to 2 inches; light yellowish brown (10YR 6/4) gravelly loamy sand, yellowish brown (10YR 5/4) moist; moderate thin platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine irregular pores; strongly effervescent; 20 percent gravel; slightly alkaline (pH 7.8); abrupt smooth boundary.

C1—2 to 12 inches; light yellowish brown (10YR 6/4) gravelly loamy coarse sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; few fine roots; common very fine irregular pores; slightly effervescent; 25 percent gravel; slightly alkaline (pH 7.8); abrupt smooth boundary.

C2—12 to 21 inches; light yellowish brown (10YR 6/4) very gravelly coarse sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; few fine roots; common very fine irregular pores; slightly effervescent; 40 percent gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.

C3—21 to 31 inches; light yellowish brown (10YR 6/4) very gravelly coarse sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few fine roots; common very fine irregular pores; slightly effervescent; 55 percent gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.

C4—31 to 60 inches; light yellowish brown (10YR 6/4) very gravelly coarse sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few fine roots; common very fine irregular pores; slightly effervescent; 50 percent gravel; moderately alkaline (pH 8.0).

Range in Characteristics

Rock fragments: 30 to 70 percent gravel, average is more than 35 percent in the particle-size control section.
Effervescence: Slight to violent

A horizon:
Rock fragments: 15 to 35 percent gravel

C horizons:
Texture: loamy sand, loamy coarse sand, coarse sand

Dutchflat Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landform: Fan terraces
Parent material: Mixed igneous and metamorphic alluvium
Slope range: 0 to 3 percent
Elevation: 2,400 to 4,800 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Fine loamy, mixed, superactive, thermic Typic Haplargids

Typical Pedon

Typical pedon of Dutchflat fine sandy loam in an area of Dutchflat fine sandy loam, dry, 1 to 3 percent slopes; latitude of 35 degrees, 05 minutes, 02 seconds north and a longitude of 114 degrees, 12 minutes, 34 seconds west; 200 feet north and 350 feet east of the southwest corner of sec. 29, T. 20 N., R. 18 W.

A—0 to 2 inches; light yellowish brown (10YR 6/4) fine sandy loam, yellowish brown (10YR 5/4) moist; common medium platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine irregular pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt—2 to 28 inches; brown (7.5YR 5/4) gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; few faint clay films on ped faces and in pores; 30 percent gravel; noneffervescent; moderately alkaline (pH 8.0); clear smooth boundary.

2Btk—28 to 41 inches; brown (7.5YR 5/4) gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; few faint clay films on ped faces and in pores; 30 percent gravel; strongly effervescent; few very fine soft seams and filaments of calcium carbonate; moderately alkaline (pH 8.0); clear smooth boundary.

2Bk—41 to 60 inches; brown (7.5YR 5/4) very gravelly coarse sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 40 percent gravel; strongly effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

Calcium carbonate equivalent: less than 10 percent
Depth to calcium carbonate: more than 9 inches; commonly 20 to 31 inches
Rock fragments: average less than 35 percent in the control section

A horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bt horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy clay loam, clay loam (20 to 35 percent clay)
Rock fragments: 15 to 35 percent

Btk and Bk horizons:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Rock fragments: 15 to 60 percent gravel
Some pedons have nongravelly coarse sandy loam C horizons beneath the argillic.

Eba taxadjunct

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landform: Fan terraces
Parent material: Mixed igneous and metamorphic alluvium
Slope range: 10 to 25 percent
Elevation: 2,000 to 4,000 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Clayey skeletal, mixed, superactive, thermic Typic Haplargids

Typical Pedon

Typical pedon of Eba very gravelly sandy loam in an area of Stagecoach-Topawa family-Eba complex, dry, 10 to 50 percent slopes; latitude of 34 degrees, 52 minutes, 03 seconds north and a longitude of 113 degrees, 43 minutes, 25 seconds west; 3,600 feet south and 350 feet west of the northeast corner of sec. 11, T. 17 N., R. 14 W.

A—0 to 1 inch; brown (7.5YR 5/4) very gravelly sandy loam, dark brown (7.5YR 3/4) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine tubular pores; noneffervescent; 40 percent gravel; slightly alkaline (pH 7.4); abrupt smooth boundary.

Bt1—1 to 16 inches; reddish brown (5YR 4/4) very gravelly sandy clay, dark reddish brown (5YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; common distinct clay films on faces of peds and lining pores; noneffervescent; 35 percent gravel, 5 percent cobble; slightly alkaline (pH 7.4); clear smooth boundary.

Bt2—16 to 28 inches; brown (7.5YR 5/4) very gravelly sandy clay, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, firm, very sticky and very plastic; few very fine roots; common very fine tubular pores; common distinct clay films on faces of peds and lining pores; noneffervescent; 35 percent gravel, 5 percent cobble; slightly alkaline (pH 7.4); clear wavy boundary.

BC—28 to 38 inches; brown (7.5YR 5/4) very gravelly sandy clay loam, dark brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, firm, slightly sticky and moderately plastic; few very fine roots; common very fine tubular pores; few faint clay films on faces of peds and lining pores; noneffervescent; 35 percent gravel; slightly alkaline (pH 7.6); clear wavy boundary.

C—38 to 60 inches; brownish yellow (10YR 6/6) very gravelly sandy loam, yellowish brown (10YR 5/6) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few very fine pores; noneffervescent; 35 percent gravel, 10 percent cobble; moderately alkaline (pH 8.0).

Range in Characteristics

This component is a taxadjunct to the Eba Series. The Eba series classifies as a clayey-skeletal, mixed, superactive, thermic Typic Calciargids. This component does not have a calcic horizon. Use and management are not affected.

Reaction: neutral to slightly alkaline

A horizon:
Value: 3 or 4 moist

Bt horizons:
Hue: 5YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Texture: clay loam, sandy clay loam, sandy clay, clay
Rock fragments: 35 to 60 percent gravel and cobble

C horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 through 6, dry or moist

Eba family

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landform: Fan terraces
Parent material: Alluvium derived from metamorphic rock and/or igneous rock
Slope: 10 to 25 percent
Elevation: 3,000 to 4,200 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Clayey-skeletal, mixed, superactive, thermic Typic Calciargids

Typical Pedon

Typical pedon of Eba family very gravelly sandy loam in an area of Nickel-Topawa-Eba families complex, 10 to 50 percent slopes; latitude of 35 degrees, 09 minutes, 14 seconds north and a longitude of 113 degrees, 47 minutes, 46 seconds west; 550 feet north and 1,050 feet east of the southwest corner of sec. 32, T. 21 N., R. 14 W.

A—0 to 1 inch; brown (7.5YR 5/3) very gravelly sandy loam, dark brown (7.5YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many fine irregular pores; noneffervescent; 45 percent gravel, 10 percent cobble; neutral (pH 7.2); abrupt wavy boundary.

Bt1—1 to 8 inches; reddish brown (5YR 4/3) very gravelly clay, dark reddish brown (5YR 3/3) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; many very fine roots; common very fine tubular pores; many distinct clay films on faces of peds; noneffervescent; 40 percent gravel, 10 percent cobble; neutral (pH 7.2); clear wavy boundary.

Bt2—8 to 32 inches; reddish brown (2.5YR 4/4) very

gravelly clay, dark reddish brown (2.5YR 3/4) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; many distinct clay films on faces of peds; noneffervescent; 55 percent gravel; neutral (pH 7.2); clear wavy boundary.

Bt3—32 to 52 inches; reddish brown (5YR 5/4) very gravelly sandy clay, reddish brown (5YR 4/4) moist; moderate medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine roots; few very fine tubular pores; many distinct clay films on faces of peds; noneffervescent; 35 percent gravel, 15 percent cobble; neutral (pH 7.2); abrupt wavy boundary.

2Bkb—52 to 60 inches; pinkish white (7.5YR 8/2) very gravelly loam, pinkish gray (7.5YR 7/2) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few fine irregular pores; many large soft calcium carbonate masses; violently effervescent; 40 percent gravel; moderately alkaline (pH 8.0).

Range in Characteristics

Use of the "Eba family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

A horizon:
Value: 3 or 4 moist
Chroma: 3 or 4 moist
Rock fragments: 40 to 60 percent cobble and gravel

Bt horizons:
Hue: 2.5YR, 5YR
Value: 4 or 5 dry, 3 or 4 moist
Texture: sandy clay loam, sandy clay, clay
Rock fragments: 35 to 60 percent gravel and cobble

2Bkb horizon:
Hue: 7.5YR, 10YR
Value: 5 through 8 dry, 4 through 7 moist
Chroma: 2 through 6, dry or moist

Eloma Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landform: Fan terraces
Parent material: Alluvium derived from granite
Slope range: 10 to 25 percent
Elevation: 3,500 to 4,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Clayey-skeletal, mixed, superactive, thermic Ustic Haplargids

Typical Pedon

Typical pedon of Eloma very cobbly sandy loam in an area of Tombstone-Caralampi-Eloma complex, 10 to 50 percent slopes; latitude of 35 degrees, 04 minutes, 14 seconds north and a longitude of 113 degrees, 48 minutes, 19 seconds west; 3,500 feet south and 1,400 feet east of the northwest corner of sec. 31, T. 20 N., R. 14 W.

A—0 to 1 inch; brown (10YR 4/3) very cobbly sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 10 percent gravel, 30 percent cobble; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

Bw—1 to 3 inches; brown (7.5YR 4/3) very cobbly sandy clay loam, dark brown (7.5YR 3/3) moist; weak very fine subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; common fine roots; common very fine tubular pores; 25 percent gravel, 30 percent cobble; noneffervescent; slightly alkaline (pH 7.4); clear wavy boundary.

Bt1—3 to 40 inches; brown (7.5YR 5/4) very cobbly clay, brown (7.5YR 4/4) moist; strong fine subangular blocky structure; hard, firm, very sticky and very plastic; common fine roots; few very fine tubular pores; common thin clay films on faces of peds and lining pores; 20 percent gravel, 20 percent cobble; noneffervescent; discontinuous areas are slightly effervescent; slightly alkaline (pH 7.4); clear wavy boundary.

Bt2—40 to 60 inches; brown (7.5YR 5/4) extremely cobbly sandy clay, brown (7.5YR 4/4) moist; strong fine subangular blocky structure; hard, firm, very sticky and very plastic; common fine roots; few very fine tubular pores; common clay films on faces of peds and lining pores; 30 percent gravel, 30 percent cobble; slightly effervescent; few discontinuous areas of calcium carbonate threads and filaments; slightly alkaline (pH 7.8).

Range in Characteristics

A and Bw horizons:
Hue: 7.5YR, 10YR

Value: 4 or 5 dry
Rock fragments: 40 to 60 percent cobble and gravel

Bt horizons:
Hue: 2.5YR, 5YR, 7.5YR
Value: 4 or 5 dry
Texture: clay loam, sandy clay, clay
Rock fragments: 40 to 70 percent cobble and gravel
Effervescence: none to slight

Far Series

Depth class: Very shallow and shallow
Drainage class: Well drained
Permeability: Moderate
Landform: Hills and mountains
Parent material: Mixed alluvium and colluvium dominated by granite
Slope range: 10 to 45 percent
Elevation: 5,800 to 8,000 feet
Mean annual precipitation: 16 to 20 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 100 to 190 days
Classification: Loamy-skeletal, mixed, superactive, mesic, Lithic Haplustolls

Typical Pedon

Typical pedon of Far very bouldery loam in an area of Far-Rock outcrop complex, 10 to 45 percent slopes; latitude of 35 degrees, 5 minutes, 48 seconds north and a longitude of 113 degrees, 54 minutes, 14 seconds west; 800 feet north and 1,600 feet west of the southeast corner of sec. 19, T .20 N., R.15W.

Al—0 to 5 inches; very dark grayish brown (10YR 3/2) very bouldery loam, black (10YR 2/1) moist; moderate thin platy structure parting to weak fine granular; soft, very friable, slightly sticky and nonplastic; many very fine and few fine roots; many very fine interstitial pores; 30 percent boulders and 5 percent gravel; strongly acid (pH 5.2); clear wavy boundary.

A2—5 to 9 inches; brown (10YR 4/3) very gravelly loam, black (10YR 2/1) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; many very fine and few fine roots; many very fine tubular pores; 40 percent gravel; strongly acid (pH 5.6); abrupt wavy boundary.

2R—9 inches; fractured granite, fractures are greater than 4 inches apart.

Range in Characteristics

Depth to bedrock: 5 to 20 inches
Organic matter content: greater than 2 percent
Reaction: Slightly acid to strongly acid
Rock fragments: 35 to 60 percent boulders, cobble, flagstone, and/or gravel

A horizons:
Hue: 7.5YR, 10YR
Value: 3 or 4 dry, 2 or 3 moist
Chroma: 1 or 2 moist

Fluvaquents

Depth class: Very deep
Drainage class: moderately well to very poorly drained
Permeability: Excessive
Flooding: Frequent
Landform: flood plains
Parent material: Alluvium derived from mixed rock sources
Slope range: 0 to 3 percent
Elevation: 3,700 to 3,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 61 degrees F
Frost free period: 180 to 210 days
Classification: Fluvaquents

Typical Pedon

Typical pedon of Fluvaquents extremely cobbly loamy sand in an area of Riverwash-Fluvaquents association, 0 to 3 percent slopes; latitude of 34 degrees, 49 minutes, 43 seconds north and a longitude of 113 degrees, 26 minutes, 06 seconds west; 1,900 feet south and 1,800 feet east of the northwest corner of sec. 27, T. 17 N., R. 11 W.

C1—0 to 5 inches; yellowish brown (10YR 5/4) extremely cobbly loamy sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 30 percent gravel, 45 percent cobble; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

C2—5 to 60 inches; yellowish brown (10YR 5/4) sand with discontinuous layers of sandy clay loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine irregular pores; 5

percent gravel, 5 percent cobble; noneffervescent; neutral (pH 7.2).

Range in Characteristics

Effervescence: none to moderate

C2 horizon:
Texture: sand or loamy sand with discontinuous strata of sandy loam through clay loam
Rock fragments: 5 to 30 percent cobble, 5 to 45 percent gravel.

Franconia Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Flooding: Very rare to rare in the winter, occasional in the summer
Landform: Alluvial fans and flood plains
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Elevation: 1,500 to 3,900 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Sandy, mixed, thermic Typic Torrifluvents

Typical Pedon

Typical pedon of Franconia sandy loam in an area of Arizo-Franconia-Riverwash complex, 1 to 3 percent slopes; latitude of 34 degrees, 39 minutes, 43 seconds north and a longitude of 114 degrees, 05 minutes, 18 seconds west; 50 feet north and 100 feet west of the southeast corner of sec. 01, T. 15 N., R. 18 W.

A—0 to 2 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 5/4) moist; moderate thin platy structure; slightly hard, friable, nonsticky and nonplastic; common fine roots; many fine tubular pores; 5 percent gravel; strongly effervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.

C1—2 to 18 inches; light brown (7.5YR 6/4) loamy sand, brown (7.5YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common fine roots; common fine irregular pores; 10 percent gravel; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

C2—18 to 33 inches; pink (7.5YR 7/4) stratified loamy sand, light brown (7.5YR 6/4) moist; massive; soft, very friable, nonsticky and nonplastic; common fine roots; common fine irregular pores; 5 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

C3—33 to 60 inches; pink (7.5YR 7/4) gravelly loamy sand, light brown (7.5YR 6/4) moist; massive; soft, very friable, few fine roots; few fine irregular pores; 20 percent gravel; slightly effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

Stratification: few thin strata of finer or coarser material in part or all of the control section

A horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, fine sandy loam

C horizons:
Hue: 10YR, 7.5YR
Value: 5 through 7 dry, 4 through 6 moist
Chroma: 3 or 4, dry or moist
Texture: loamy sand, sand
Rock fragments: 0 to 25 percent gravel
Calcium carbonate equivalent: 5 to 10 percent

Gadsden Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Flooding: None
Landform: Flood plains (protected)
Parent material: Alluvium derived from mixed rock sources
Slope range: 0 to 1 percent
Elevation: 400 to 500 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Fine, smectitic, calcareous, hyperthermic Vertic Torrifluvents

Typical Pedon

Typical pedon of Gadsden silty clay in an area of Gadsden silty clay, 0 to 1 percent slopes; latitude of 34 degrees, 52 minutes, 47 seconds north and a longitude of 114 degrees, 33 minutes, 42 seconds west; 300 feet south and 300 feet east of the northwest corner of sec. 07, T. 17 N., R. 21 W.

Az—0 to 2 inches; grayish brown (10YR 5/2) silty clay, very dark grayish brown (10YR 3/2) moist; moderate medium platy structure; hard, firm,

moderately sticky and moderately plastic; few very fine roots; many very fine tubular pores; many medium salt crystals; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Cz1—2 to 28 inches; pale brown (10YR 6/3) weakly stratified clay, very dark grayish brown (10YR 3/2) moist; massive; hard, firm, very sticky and very plastic; few very fine roots; many very fine tubular pores; common pressure faces; common iron stains on faces of peds and in root channels; many fine salt crystals; slightly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Cz2—28 to 56 inches; pinkish gray (7.5YR 6/2) weakly stratified clay, brown (7.5YR 4/2) moist; massive; hard, firm, very sticky and very plastic; few fine roots; many very fine tubular pores; common pressure faces; many iron stains on faces of peds and in root channels; many fine salt crystals; slightly effervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.

2C—56 to 60 inches; yellowish brown (10YR 5/4) stratified very fine sandy loam and silt loam, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; few fine tubular pores; many iron stains; strongly effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

Effervescence: slight to violent
Salinity (ECe): 2 to 12 dS/m
Sodicity (SAR): 4 to 20

A horizon:
Hue: 7.5YR, 10YR
Value: 3 or 4 moist
Chroma: 2 through 4, dry or moist
Texture: silty clay, clay

Cz horizon:
Hue: 7.5YR, 10YR
Value: 4 through 6 dry, 3 or 4 moist
Chroma: 2 through 4, dry or moist
Texture: clay, silty clay

Gila Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Flooding: Occasional
Landform: Alluvial fans and flood plains
Parent material: Alluvium derived from mixed rock sources
Slope range: 1 to 3 percent
Elevation: 1,800 to 2,600 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents

Typical Pedon

Typical pedon of Gila very fine sandy loam in an area of Gila-Glendale complex, dry, 1 to 3 percent slopes; latitude of 34 degrees, 44 minutes, 20 seconds north and a longitude of 113 degrees, 36 minutes, 39 seconds west; 1,700 feet north and 1,800 feet east of the southwest corner of sec. 10, T. 16 N., R. 13 W.

Az—0 to 4 inches; light yellowish brown (10YR 6/4) very fine sandy loam, brown (10YR 4/3) moist; moderate medium granular structure; slightly hard, friable, nonsticky and slightly plastic; common fine roots; common fine tubular pores; common fine salt crystals; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C1—4 to 12 inches; light yellowish brown (10YR 6/4) stratified silt loam, brown (10YR 5/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; common fine tubular pores; few fine salt crystal; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

C2—12 to 21 inches; light yellowish brown (10YR 6/4) stratified very fine sandy loam, brown (10YR 5/3) moist; massive; slightly hard, friable, nonsticky and slightly plastic; common fine roots; common fine tubular pores; few iron stains; strongly effervescent; moderately alkaline (pH 7.8); abrupt wavy boundary.

C3—21 to 29 inches; pale brown (10YR 6/3) stratified loamy fine sand and fine sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; common fine irregular pores; many iron stains; strongly effervescent; moderately alkaline (pH 7.8); abrupt wavy boundary.

C4—29 to 60 inches; pale brown (10YR 6/3) stratified silty clay loam and fine sandy loam; brown (10YR 4/3) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; many iron stains; strongly effervescent; moderately alkaline (pH 7.8).

Range in Characteristics

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

C horizons:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4, dry or moist.

Glendale Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Flooding: Occasional
Landform: Alluvial fans and flood plains
Parent material: Alluvium derived from mixed rock sources
Slope range: 1 to 3 percent
Elevation: 1,800 to 2,600 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Fine-silty, mixed, superactive, calcareous, thermic Typic Torrifluvents

Typical Pedon

Typical pedon of Glendale silty clay loam in an area of Gila-Glendale complex, dry, 1 to 3 percent slopes; latitude of 34 degrees, 46 minutes, 16 seconds north and a longitude of 113 degrees, 36 minutes, 49 seconds west; 2,400 feet south and 900 feet east of the northwest corner of sec. 34, T. 16 1/2 N., R. 13 W.

Ap—0 to 10 inches; brown (7.5YR 5/4) silty clay loam, dark brown (7.5YR 3/4) moist; strong medium granular structure; hard, firm, moderately sticky and moderately plastic; common fine roots; many fine tubular pores; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

C1—10 to 21 inches; light yellowish brown (10YR 6/4) silty clay loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine roots; common fine tubular pores; strongly effervescent; slightly alkaline (pH 7.8); gradual wavy boundary.

C2—21 to 37 inches; light yellowish brown (10YR 6/4) silty clay loam, dark yellowish brown (10YR 4/4) moist; massive; hard, firm, moderately sticky and moderately plastic; few fine roots; common fine tubular pores; strongly effervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.

C3—37 to 54 inches; light yellowish brown (10YR 6/4) silt loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, slightly sticky and moderately plastic; few very fine roots; few fine tubular pores; strongly effervescent; moderately alkaline (pH8.0); abrupt wavy boundary.

C4—54 to 60 inches; pale brown (10YR 6/3) coarse sand, dark brown (10YR 3/3) moist; single grain; loose, few medium irregular pores; 5 percent gravel; strongly effervescent; slightly alkaline (pH7.6).

Range in Characteristics

C1, C2, C3 horizons:
Hue: 7.5YR, 10YR
Texture: silt loam, silty clay loam

C4 horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 or 4 moist
Not present in all pedons.

Goldroad Series

Depth class: Shallow and very shallow
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid over bedrock
Landform: Hills and mountains
Parent material: Mixed igneous and metamorphic alluvium and colluvium
Slope range: 20 to 60 percent
Elevation: 1,400 to 3,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents

Typical Pedon

Typical pedon of Goldroad extremely gravelly sandy loam in an area of Goldroad-Rock outcrop complex, 20 to 60 percent slopes; latitude of 35 degrees, 51 minutes, 04 seconds north and a longitude of 114 degrees, 38 minutes, 56 seconds west; 70 feet south and 610 feet west of the northeast corner of sec. 05, T. 28 N., R. 22 W.

A—0 to 2 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 50 percent gravel, 10 percent cobble; strongly effervescent, 9 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—2 to 13 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 40 percent gravel, strongly effervescent; 10 percent calcium

carbonate equivalent; the undersides of flat gravel have thin calcium carbonate coatings; moderately alkaline (pH 8.0); abrupt smooth boundary.

2R—13 inches; granite bedrock.

Range in Characteristics

Rock fragments: 35 to 75 percent granitic gravel and cobble
Depth to bedrock: 4 to 20 inches
Reaction: slightly or moderately alkaline
Clay content: 5 to 18 percent
Calcium carbonate equivalent: 1 to 10 percent

A horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bw horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 through 6 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, coarse sandy loam; dominantly coarse and very coarse in the sand fraction

Gonzales Series

Depth class: Shallow to bedrock (paralithic)
Drainage class: Well drained
Permeability: Slow
Landform: Hills and mountains
Parent material: Alluvium derived from volcanic rock
Slope: 5 to 35 percent
Elevation: 3,800 to 5,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Clayey, smectitic, thermic, shallow Ustic Haplocambids

Typical Pedon

Typical pedon of Gonzales very cobbly sandy clay loam in an area of Gonzales-Rock outcrop complex, 15 to 35 percent slopes; latitude of 34 degrees, 51 minutes, 44 seconds north and a longitude of 113 degrees, 24 minutes, 55 seconds west; 200 feet south and 2,500 feet east of the northwest corner of sec. 14, T. 17 N., R. 11 W.

A—0 to 1 inch; reddish gray (5YR 5/2) very cobbly sandy clay loam, dark reddish brown (5YR 3/2) moist; moderate fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine roots; many very fine irregular pores; 20 percent cobble and 25 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

Bw1—1 to 7 inches; dark reddish brown (5YR 3/2) clay, dark reddish brown (5YR 3/2) moist; moderate medium subangular blocky structure; hard, very firm, very sticky and very plastic; many very fine roots; common fine tubular pores; neutral (pH 7.0) clear wavy boundary.

Bw2—7 to 14 inches; reddish brown (5YR 4/4) clay, dark reddish brown (5YR 3/4) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; many very fine roots; few fine tubular pores; neutral (pH 7.0) abrupt wavy boundary.

2Cr—14 to 17 inches; weathered tuff.

2R—17 inches; tuff.

Range in Characteristics

Depth to bedrock: 10 to 20 inches
Rock fragments: average less than 15 percent in the control section
Organic matter: less than 3 percent in the surface

A horizon:
Hue: 5YR, 7.5YR
Value: 4 or 5 dry
Chroma: 2 or 3, dry or moist

B horizon:
Hue: 5YR, 7.5YR
Value"2 through 4, dry or moist
Chroma: 2 through 4, dry or moist
Texture: clay, sandy clay (40 to 55 percent clay)

Goodsprings family

Depth class: Shallow and very shallow to petrocalcic
Drainage class: Well drained
Permeability: Moderate
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 35 percent
Elevation: 1,450 to 3,800 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids

Typical Pedon

Typical pedon of Goodsprings family gravelly sandy loam in an area of Goodsprings family gravelly sandy loam, dry, 1 to 15 percent slopes; latitude of 34 degrees, 32 minutes, 09 seconds north and a longitude of 114 degrees, 02 minutes, 36 seconds west; 2,300 feet north and 2,200 feet west of the southeast corner of sec. 21, T. 14 N., R. 17 W.

A—0 to 2 inches; light yellowish brown (10YR 6/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate thin platy structure; slightly hard, friable, nonsticky and nonplastic; many very fine roots; many very fine vesicular pores; 30 percent gravel and gravel-size pan fragments; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk1—2 to 9 inches; light yellowish brown (10YR 6/4) gravelly loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 20 percent gravel and gravel-size pan fragments; common fine soft calcium carbonate masses; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk2—9 to 18 inches; very pale brown (10YR 7/3) gravelly loam, pale brown (10YR 6/3) moist; massive; hard, firm, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores; 20 percent gravel and gravel-size pan fragments; many large soft calcium carbonate masses; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2Bkm—18 to 39 inches; calcium carbonate cemented hardpan.

3C—39 to 60 inches; pale brown (10YR 6/3) extremely gravelly loamy coarse sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic, many very fine irregular pores; 75 percent gravel; strongly effervescent; moderately alkaline (pH 8.2).

Range in Characteristics

Use of the "Goodsprings family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to calcium carbonate cemented hardpan: 4 to 20 inches

Rock fragments: 15 to 35 percent gravel and gravel-sized pan fragments

A horizon:

Hue: 7.5YR, 10YR

Bk horizon:

Chroma: 3 or 4, dry or moist

Calcium carbonate equivalent: 5 to 15 percent

Graham Series

Depth class: Very shallow and shallow to bedrock (lithic)

Drainage class: Well drained

Permeability: Slow

Landform: Hills and mountains

Parent material: Alluvium derived from igneous rock

Slope: 2 to 40 percent

Elevation: 4,000 to 5,500 feet

Mean annual precipitation: 12 to 16 inches

Mean annual air temperature: 57 to 61 degrees F

Frost-free period: 180 to 210 days

Classification: Clayey, smectitic, thermic Lithic Ustic Haplargids

Typical Pedon

Typical pedon of Graham very cobbly loam in an area of Graham-Rock outcrop complex, 10 to 40 percent slopes; latitude of 35 degrees, 06 minutes, 12 seconds north and a longitude of 113 degrees, 26 minutes, 33 seconds west; 2,150 feet south and 820 feet east of the northwest corner of sec. 21, T. 20 N., R. 11 W.

A—0 to 2 inches; brown (7.5YR 5/2) very cobbly loam, dark brown (7.5YR 3/2) moist; moderate medium granular structure; slightly hard, friable, nonsticky and nonplastic; many fine roots; many fine vesicular pores; noneffervescent; 30 percent gravel, 20 percent cobble, 5 percent stone; neutral (pH 6.8); abrupt wavy boundary.

Bt1—2 to 7 inches; brown (7.5YR 5/3) clay loam, dark brown (7.5YR 3/3) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine roots; common fine tubular pores; few faint clay films on faces of peds; noneffervescent; 5 percent gravel, 5 percent cobble; slightly alkaline (pH 7.4) clear wavy boundary.

Bt2—7 to 14 inches; brown (7.5YR 5/3) clay, dark brown (7.5YR 3/3) moist; moderate medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common fine roots; common fine tubular pores; few faint clay films on faces of peds; common pressure faces; noneffervescent; 5 percent gravel, 2 percent cobble; slightly alkaline (pH 7.4); abrupt irregular boundary.

2R—14 inches; andesite.

Range in Characteristics

Rock fragments: average 1 to 35 percent in the particle-size control section.

A horizon:

Hue: 7.5YR, 10YR

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 2 or 3, dry or moist

Reaction: neutral to moderately alkaline

Bt horizons:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 3 or 4, dry or moist
Texture: clay, clay loam
Reaction: slightly or moderately alkaline

Gunsight Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 2 to 40 percent
Elevation: 400 to 2,600 feet
Mean annual precipitation: 3 to 7 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Loamy-skeletal, mixed, superactive, hyperthermic Typic Haplocalcids

Typical Pedon

Typical pedon of Gunsight very gravelly sandy loam in an area of Gunsight very gravelly sandy loam, 10 to 40 percent slopes; latitude of 34 degrees, 26 minutes, 57 seconds north and a longitude of 114 degrees, 13 minutes, 23 seconds west; 100 feet north and 3,250 feet east of the southwest corner of sec. 23, T. 13 N., R. 19 W.

A—0 to 3 inches; very pale brown (10YR 7/4) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and nonplastic; many very fine roots; many very fine irregular pores; strongly effervescent; 30 percent gravel, 10 percent cobble; moderately alkaline (pH 8.0); clear wavy boundary.

Bw—3 to 6 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; many very fine roots; many very fine irregular pores; violently effervescent; 40 percent gravel; moderately alkaline (pH 8.0); clear wavy boundary.

Bkl—6 to 28 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; few fine irregular pores; common fine soft calcium carbonate masses and coatings on undersides of gravel; violently effervescent; 70 percent gravel; moderately alkaline (pH 8.0); clear wavy boundary.

Bk2—28 to 50 inches; light yellowish brown (10YR 6/4) extremely gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few fine irregular pores; few fine soft calcium carbonate masses; weakly cemented with calcium carbonate; violently effervescent; 70 percent gravel; moderately alkaline (pH 8.0); abrupt wavy boundary.

C—50 to 60 inches; light yellowish brown (10YR 6/4) extremely gravelly loamy sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; common very fine irregular pores; slightly effervescent; 75 percent gravel; moderately alkaline (pH 8.0).

Range in Characteristics

Depth to a calcic horizon: 6 to 20 inches
Rock fragments: 35 to 75 percent
Clay content: 5 to 18 percent in the particle-size control section

A horizon:
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 5 or 6 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loam

Bw horizon:
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 5 or 6 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loam

Bk horizons:
Hue: 7.5YR, 10YR
Value: 5 through 7 dry, 4 through 6 moist
Chroma: 3 or 4, dry or moist
Calcium carbonate equivalent: 15 to 30 percent

C horizon:
Value: 6 or 7 dry, 5 or 6 moist
Texture: loamy sand, sandy loam, coarse sandy loam

Hassell family

Depth class: Moderately deep to bedrock (paralithic)
Drainage class: Well drained
Permeability: Slow
Landform: Hills and mountains
Parent material: Alluvium derived from granite
Slope: 10 to 30 percent
Elevation: 5,000 to 6,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 58 to 60 degrees F

Frost-free period: 170 to 190 days
Classification: Fine, smectitic, thermic Ustertic Haplargids

Typical Pedon

Typical pedon of Hassell family loam in an area of Hassell family-Lampshire-Rock outcrop complex, 10 to 30 percent slope; latitude of 35 degrees, 05 minutes, 25 seconds north and a longitude of 113 degrees, 52 minutes, 27 seconds west; 1,600 feet south and 2,000 feet east of the northwest corner of sec. 28, T. 20 N., R. 15 W.

A—0 to 4 inches; brown (10YR 4/3) loam, very dark grayish brown (10YR 3/2) moist; moderate thin and medium platy structure; hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine irregular pores; noneffervescent; 10 percent gravel; slightly acid (pH 6.5); abrupt wavy boundary.

Bt1—4 to 13 inches; yellowish red (5YR 5/6) clay, reddish brown (5YR 4/4) moist; strong fine and medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; many very fine, common fine and medium roots; many very fine tubular pores; many prominent clay films on faces of peds and lining pores; noneffervescent; 5 percent gravel; neutral (pH 6.8); clear wavy boundary.

Bt2—13 to 24 inches; strong brown (7.5YR 5/6) clay, brown (7.5YR 4/4) moist; strong fine and medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; many very fine, common fine and medium roots; many very fine tubular pores; many distinct clay films on faces of peds; noneffervescent; 10 percent gravel; neutral (pH 6.8); clear wavy boundary.

Bt3—24 to 33 inches; reddish yellow (7.5YR 6/6) gravelly clay loam, strong brown (7.5YR 5/6) moist; weak fine and medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine and medium roots; many very fine tubular pores; few faint clay films on faces of peds; noneffervescent; 15 percent gravel; neutral (pH 6.8); abrupt wavy boundary.

2Cr—33 to 47 inches; weathered granite (grus); common yellowish red (5YR 4/6) clay coatings; few black stains; many very fine roots matted in fractures.

2R—47 inches; granite bedrock.

Range in Characteristics

Use of the "Hassell family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to weathered bedrock: 20 to 40 inches
Reaction: slightly acid or neutral

A horizon:
Hue: 7.5YR, 10YR
Value: 3 or 4, dry or moist
Chroma: 2 or 3, dry or moist

Bt horizons:
Hue: 5YR, 7.5YR, 10YR
Value: 4 or 5, dry or moist
Chroma: 4 to 6, dry or moist
Texture: clay, clay loam

Holtville Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Flooding: None
Landform: Flood plains (protected)
Parent material: Alluvium derived from mixed rock sources
Slope range: 0 to 1 percent
Elevation: 500 to 700 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Clayey over loamy, smectitic over mixed, superactive, calcareous, hyperthermic Typic Torrifluvents

Typical Pedon

Typical pedon of Holtville silty clay in an area of Holtville silty clay, 0 to 1 percent slopes; latitude of 35 degrees, 04 minutes, 41 seconds north and a longitude of 114 degrees, 36 minutes, 07 seconds west; 3,200 feet north and 2,100 feet west of the southeast corner of sec. 32, T. 20 N., R. 22 W.

Az—0 to 2 inches; gray (10YR 6/1) silty clay, very dark gray (10YR 3/1) moist; strong thin platy structure; hard, firm, very sticky and very plastic; few very fine roots; few fine tubular pores; many fine salt crystals; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Cz1—2 to 23 inches; pale brown (10YR 6/3) clay, brown (10YR 4/3) moist; massive; very hard, very firm, very sticky and very plastic; few very fine roots; many very fine tubular pores; many fine salt crystals; many medium iron stains; many pressure faces; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Cz2—23 to 31 inches; very pale brown (10YR 7/3) silty clay, brown (10YR 4/3) moist; massive; hard, firm,

very sticky and very plastic; few very fine roots; many fine tubular pores; many fine salt crystals; many medium iron stains; many pressure faces; strongly effervescent; slightly alkaline (pH 7.7); abrupt wavy boundary.

2Cz3—31 to 42 inches; light yellowish brown (10YR 6/4) very fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine tubular pores; many fine iron stains; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

2Cz4—42 to 60 inches; pale brown (10YR 6/3) fine sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many fine irregular pores; slightly effervescent; slightly alkaline (pH 7.8).

Range in Characteristics

Depth to contrasting particle-size (2Cz horizon): 20 to 35 inches
Effervescence: slight to strong
Salinity (ECe): 2 to 12 dS/m
Sodicity (SAR): 4 to 20

Az horizon:
Value: 5 or 6 dry, 3 through 5 moist
Chroma: 1 through 3

Cz horizons:
Value: 5 through 7 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: silty clay, clay

Huevi Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 2 to 40 percent
Elevation: 600 to 3,00 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids

Typical Pedon

Typical pedon of Huevi very gravelly loam in an area of Huevi very gravelly loam, 2 to 15 percent slopes; latitude of 35 degrees, 53 minutes, 43 seconds north and a longitude of 114 degrees, 31 minutes, 56 seconds west; 300 feet north and 200 feet west of the southeast corner of sec. 16, T. 29 N., R. 21 W.

A—0 to 2 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; common thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many fine vesicular pores; 65 percent gravel; strongly effervescent; 7 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—2 to 9 inches; brown (7.5YR 5/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; few very fine tubular pores; 40 percent gravel; strongly effervescent, 10 percent calcium carbonate equivalent; moderately alkaline; (pH 8.0); clear wavy boundary.

Bkq—9 to 27 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 50 percent gravel; violently effervescent; 15 percent calcium carbonate equivalent; many large soft calcium carbonate masses; gravel has 0.3-millimeter-thick calcium carbonate coatings on undersides; common nodules that are weakly cemented with silica; moderately alkaline (pH 8.2); clear wavy boundary.

Bk—27 to 40 inches; light yellowish brown (10YR 6/4) extremely gravelly sandy loam; dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; hard, friable, nonsticky and nonplastic; few fine roots; common very fine interstitial pore; 65 percent gravel; violently effervescent; 15 percent calcium carbonate equivalent; large irregularly shaped soft to hard calcium carbonate masses; moderately alkaline (pH 8.2); clear wavy boundary.

2C—40 to 60 inches; light yellowish brown (10YR 6/4) very gravelly loamy sand; dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few very fine interstitial pores; 55 percent gravel; violently effervescent; 6 percent calcium carbonate; moderately alkaline (pH 8.4).

Range in Characteristics

Rock fragments: 35 to 75 percent gravel
Reaction: Slightly or moderately alkaline
Organic matter content: less than 1 percent

Calcic horizon: Begins above 20 inches. Calcium carbonate and coatings on gravel make up greater than 15 percent calcium carbonate equivalent.

A horizon:
Value: 5 through 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bw horizon:
Value: 5 through 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bk and Bkq horizons:
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Hyder Series

Depth class: Very shallow and shallow
Drainage class: Somewhat excessively drained
Permeability: Moderate
Landform: Hills and mountains
Parent material: Alluvium and colluvium from volcanics
Slope range: 35 to 70 percent
Elevation: 500 to 3,200 feet
Mean annual precipitation: 3 to 7 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents

Typical Pedon

Typical pedon of Hyder extremely stony loam in an area of Hyder-Rock outcrop-Rubble land complex, 40 to 70 percent slopes; latitude of 34 degrees, 25 minutes, 48 seconds north and a longitude of 113 degrees, 44 minutes, 11 seconds west; 150 feet south and 800 feet east of the northwest corner of sec. 33, T. 13 N., R. 14 W.

A—0 to 2 inches; brown (7.5YR 5/4) extremely stony loam, brown (7.5YR 4/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 20 percent gravel, 30 percent cobble, 20 percent stone; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—2 to 7 inches; brown (7.5YR 5/4) extremely cobbly loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; many very fine roots; many very fine tubular pores; 40 percent gravel, 30 percent cobble; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2R—7 inches; basalt bedrock.

Range in Characteristics

Depth to bedrock: 5 to 20 inches
Calcium carbonate equivalent: 2 to 10 percent
Content of rock fragments: 35 to 75 percent gravel and cobble and/or stone
Texture of the fine earth fraction: loam, sandy loam

Bw horizon:
Value: 5 or 6 dry, 4 or 5 moist

Indio Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Flooding: None
Landform: Flood plains (protected)
Parent material: Alluvium derived from mixed rock sources
Slope range: 0 to 1 percent
Elevation: 500 to 1,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Coarse-silty, mixed, superactive, calcareous, hyperthermic Typic Torrifluvents

Typical Pedon

Typical pedon of Indio silt loam in an area of Indio silt loam, 0 to 1 percent slopes; latitude of 34 degrees, 53 minutes, 53 seconds north and a longitude of 114 degrees, 34 minutes, 43 seconds west; 1,050 feet north and 550 feet east of the southwest corner of sec. 36, T. 18 N., R. 22 W.

A—0 to 4 inches; light yellowish brown (10YR 6/4) silt loam, brown (10YR 4/3) moist; weak thin platy structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; many fine vesicular pores; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

AC—4 to 8 inches; light yellowish brown (10YR 6/4) silt loam, dark yellowish brown (10YR 3/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; many very fine irregular pores; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Cz1—8 to 46 inches; light yellowish brown (10YR 6/4) silt loam, brown (10YR 4/3) moist; massive;

slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; few fine tubular pores; common fine salt crystals; many medium iron stains; strongly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Cz2—46 to 58 inches; light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 4/4) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; common very fine irregular pores; many very fine salt crystals; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2C—58 to 60 inches; very pale brown (10YR 7/4) sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine vesicular pores; slightly effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

Effervescence: slight to violent
Salinity (ECe): 2 to 12 dS/m
Sodicity (SAR): 4 to 20
Texture: silt loam, very fine sandy loam (less than 18 percent clay and less than 15 percent fine sand or coarser sand); finer or coarser textures occur below 40 inches.

A and AC horizons:
Value: 5 or 6 dry, 3 or 4 moist

Cz horizons:
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

2C horizon:
Value: 5 through dry, 3 or 4 moist
Chroma: 3 or 4 dry or moist

Ireteba family

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Flooding: Rare
Landform: Stream terraces
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Elevation: 2,800 to 4,600 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents

Typical Pedon

Typical pedon of Ireteba family gravelly sandy loam in an area of Ireteba family-Arizo complex, 1 to 3 percent slopes; latitude of 35 degrees, 07 minutes, 24 seconds north and a longitude of 113 degrees, 41 minutes, 15 seconds west; 50 feet south and 120 feet east of the northwest corner of sec. 17, T. 20 N., R. 13 W.

A—0 to 2 inches; brown (7.5YR 5/4) gravelly sandy loam, dark brown (7.5YR 3/4); moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; noneffervescent; 15 percent gravel; neutral (pH 6.8); clear wavy boundary.

C1—2 to 10 inches; brown (7.5YR 5/4) sandy loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; noneffervescent; 10 percent gravel; neutral (pH 7.0); clear wavy boundary.

C2—10 to 19 inches; brown (7.5YR 4/4) gravelly sandy loam, dark brown (7.5YR 3/4) moist, moderate medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; noneffervescent; 15 percent gravel; neutral (pH 7.0) clear wavy boundary.

C3—19 to 31 inches; brown (7.5YR 5/4) gravelly sandy loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; common fine roots; common very fine tubular pores; few very fine calcium carbonate filaments; strongly effervescent; 30 percent gravel; slightly alkaline (pH 7.4); clear wavy boundary.

C4—31 to 41 inches; brown (7.5YR 5/4) gravelly coarse sandy loam, brown (7.5YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; few very fine calcium carbonate filaments; strongly effervescent; 25 percent gravel; slightly alkaline (pH 7.4); abrupt wavy boundary.

C5—41 to 60 inches; light brown (7.5YR 6/4) very gravelly loamy sand, brown (7.5YR 5/4) moist; single grain; loose, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; few very fine calcium carbonate filaments; strongly effervescent; 40 percent gravel; slightly alkaline (pH 7.4).

Range in Characteristics

Use of the "Ireteba family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is

described in the map unit description and database. Use, management, and interpretations are not affected.

A horizon:
Value: 4 or 5 dry, 3 or 4 moist
Coarse fragments: 15 to 25 percent gravel

C horizons:
Value: 4 to 6 dry, 3 to 5 moist
Texture: sandy loam, coarse sandy loam, loamy sand
Coarse fragments: 10 to 40 percent gravel, average is less than 35 percent in the particle-size control section.

Kinley Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 35 percent
Elevation: 1,600 to 3,500 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids

Typical Pedon

Typical pedon of Kinley gravelly sandy loam in an area of Lostman-Kinley complex, 1 to 7 percent slopes; latitude of 34 degrees, 35 minutes, 15 seconds north and a longitude of 114 degrees, 02 minutes, 27 seconds west; 900 feet south and 1,500 feet west of the northeast corner of sec. 04, T. 14 N., R. 17 W.

A—0 to 2 inches; light brown (7.5YR 6/4) gravelly sandy loam, brown (7.5YR 5/4) moist; moderate thin platy structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many fine irregular pores; 20 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

BA—2 to 9 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bk1—9 to 13 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 5 percent gravel; strongly effervescent; 15 percent calcium carbonate equivalent; few soft calcium carbonate masses; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bk2—13 to 24 inches; pinkish gray (7.5YR 7/2) sandy loam, pinkish gray (7.5YR 6/2) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few fine roots; many very fine tubular pores; 10 percent gravel; violently effervescent; 35 percent calcium carbonate equivalent; 10 percent hard calcium carbonate nodules; few soft calcium carbonate masses; moderately alkaline (PH 8.2); clear wavy boundary.

Bk3—24 to 34 inches; pinkish gray (7.5YR 7/2) gravelly sandy loam, light brown (7.5YR 6/4) moist; weak fine subangular blocky structure; hard, firm, nonsticky and nonplastic; many very fine roots; 25 percent gravel; violently effervescent; 40 percent calcium carbonate equivalent; continuous calcium carbonate coating on peds; common soft calcium carbonate masses; moderately alkaline (pH 8.2); clear wavy boundary.

Bk4—34 to 50 inches; light gray (10YR 7/2) very gravelly sandy loam, light brownish gray (10YR 6/2) moist; weak fine subangular blocky structure; hard, firm, nonsticky and nonplastic; many very fine tubular pores; 40 percent gravel; violently effervescent; 35 Calcium carbonate equivalent; continuous calcium carbonate coatings on peds; few soft calcium carbonate masses; moderately alkaline (pH 8.2); clear wavy boundary.

C—50 to 60 inches; very pale brown (10YR 8/2) very gravelly sandy loam, light gray (10YR 7/2) moist; massive; hard, firm, nonsticky and nonplastic; common very fine tubular pores; 45 percent gravel; violently effervescent; 35 percent calcium carbonate equivalent; moderately alkaline (pH 8.0).

Range in Characteristics

Reaction: slightly or moderately alkaline
Depth to the calcic horizon: 5 to 20 inches
Calcium carbonate equivalent: 15 to 40 percent
Rock fragments: average 15 to 35 percent in the particle-size control section

A horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 3 through 5 moist
Chroma: 3 or 4, dry or moist
Texture: loamy sand, sandy loam
Rock fragments: 0 to 35 percent gravel

BA horizon:
Hue: 10YR, 7.5YR

Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bk horizons:
Hue: 10YR, 7.5YR
Value: 6 through 8 dry, 4 through 7 moist
Chroma: 2 through 4, dry or moist
Clay content: 5 to 18 percent

Kofa Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Flooding: None
Landform: Flood plains (protected)
Parent material: Alluvium derived from mixed rock sources
Slope range: 0 to 1 percent
Elevation: 500 to 700 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Clayey over sandy or sandy-skeletal, smectitic over mixed, superactive, calcareous, hyperthermic Vertic Torrifluvents

Typical Pedon

Typical pedon of Kofa silty clay in an area of Kofa silty clay, 0 to 1 percent slopes; latitude of 34 degrees, 55 minutes, 18 seconds north and a longitude of 114 degrees, 35 minutes, 28 seconds west; 1,000 feet south and 2,000 feet east of the northwest corner of sec. 26, T. 18 N., R. 22 W.

Ap—0 to 6 inches; pale brown (10YR 6/3) silty clay, dark brown (10YR 3/3) moist; moderate medium platy structure; hard, firm, moderately sticky and moderately plastic; many very fine roots; many very fine tubular pores; few cracks 1-1/2 to 2 inches wide extending to lower boundary; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Apz—6 to 12 inches; light yellowish brown (10YR 6/4) silty clay, brown (10YR 4/3) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; many very fine tubular pores; few cracks 1/2 to 1 inch wide extending to lower boundary; many fine salt crystals; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Cz1—12 to 22 inches; pale brown (10YR 6/3) stratified silty clay, dark brown (10YR 3/3) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; many very fine tubular pores; few cracks 1/2 inch wide extending to lower boundary; common pressure faces; few fine salt crystals; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Cz2—22 to 29 inches; brown (10YR 5/3) stratified silty clay, dark grayish brown (10YR 4/2) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; many very fine tubular pores; few cracks 1/2 inch wide extending to lower boundary; common pressure faces; few fine salt crystals; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2C—29 to 60 inches; very pale brown (10YR 7/4) fine sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine irregular pores; noneffervescent; moderately alkaline (pH 8.2).

Range in Characteristics

Effervescence: none to strong
Salinity (ECe): 2 to 12 dS/m
Sodicity (SAR): 4 to 20
Depth to contrasting layer: 20 to 40 inches
Cracking: 1/3 inch to 2 inches wide to a depth of 20 inches or more

A horizons:
Value: 5 or 6 dry, 3 through 5 moist
Chroma: 3 or 4 dry or moist

Cz horizons:
Value: 5 or 6 dry, 3 through 5 moist
Chroma: 3 or 4 dry or moist
Texture: silty clay, clay

C horizon:
Value: 6 or 7 dry, 4 or 5 moist
Texture: fine sand or sand

Lagunita Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Flooding: None
Landform: Flood plains (protected)
Parent material: Alluvium derived from mixed rock sources
Slope range: 0 to 3 percent
Elevation: 500 to 1,400 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days

Classification: Mixed, hyperthermic Typic Torripsamments

Typical Pedon

Typical pedon of Lagunita sand in an unsectionized area of Lagunita sand, 0 to 1 percent slopes; latitude of 34 degrees, 56 minutes, 14 seconds north and a longitude of 114 degrees, 37 minutes, 27 seconds west.

A—0 to 2 inches; yellowish brown (10YR 5/4) sand, dark yellowish brown (10YR 4/4) moist; weak thin platy structure; loose, nonsticky and nonplastic; common very fine roots; many very fine irregular pores; noneffervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C—2 to 60 inches; light yellowish brown (10YR 6/4) loamy sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; 10 percent gravel; noneffervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Range in Characteristics

Rock fragments: less than 15 percent gravel

A horizon:
Value: 5 through 7 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

C horizon:
Value: 5 through 7 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: sand, loamy sand

Lampshire Series

Depth class: Very shallow and shallow
Drainage class: Well drained
Permeability: Moderate or moderately rapid
Landform: Hills and mountains
Parent material: Alluvium and colluvium from igneous and metamorphic rocks
Slope range: 15 to 70 percent
Elevation: 3,300 to 7,200 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 170 to 210 days
Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents

Typical Pedon

Typical pedon of Lampshire very stony loam in an area of Lampshire-Rock outcrop complex, 15 to 60 percent slopes, stony; latitude of 34 degrees, 54 minutes, 43 seconds north and a longitude of 114 degrees, 01 minutes, 14 seconds west; 2,100 feet north and 200 feet east of the southwest corner of sec. 30, T. 18 N., R. 16 W.

A—0 to 2 inches; brown (7.5YR 5/3) very stony loam, dark brown (7.5YR 3/2) moist; moderate fine granular structure; slightly hard, friable, nonsticky and nonplastic; common fine roots; many fine vesicular pores; 15 percent stone, 15 percent cobble, and 20 percent gravel; noneffervescent; neutral (pH 6.8); clear wavy boundary.

Bw—2 to 7 inches; brown (7.5YR 5/2) very cobbly loam, dark brown (7.5YR 3/2) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common fine roots; common fine tubular pores; 5 percent stone, 25 percent cobble, and 20 percent gravel; noneffervescent; neutral (pH 7.0); abrupt irregular boundary.

2R—7 inches; rhyolite bedrock.

Range in Characteristics

Depth to bedrock: 5 to 20 inches

A horizon:
Value: 3 or 4 moist
Chroma: 2 or 3, dry or moist
Rock fragments: 50 to 60 percent stone, cobble, and gravel

Bw horizon:
Value: 3 or 4 moist
Texture: sandy loam, loam
Rock fragments: 45 to 55 percent stone, cobble, and gravel

Lostman Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Landform: Stream terraces
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 7 percent
Elevation: 1,600 to 3,200 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocambids

Typical Pedon

Typical pedon of Lostman sandy loam in an area of Lostman-Kinley complex, 1 to 7 percent slopes; latitude of 34 degrees, 39 seconds, 56 minutes north and longitude of 113 degrees, 59 minutes, 17 seconds

west; 1,140 feet north and 1,290 feet west of the southeast corner of sec. 1, T. 15 N., R. 17 W.

A—0 to 2 inches; brown (7.5YR 5/3) sandy loam, brown (7.5YR 4/3) moist; moderate thin platy structure; soft, friable, nonsticky and nonplastic; common fine roots; many fine vesicular pores; noneffervescent; 10 percent gravel, 2 percent cobble; slightly alkaline (pH 7.4); abrupt wavy boundary.

Bw1—2 to 12 inches; brown (7.5YR 5/4) fine sandy loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; soft, friable, nonsticky and nonplastic; common fine roots; many very fine tubular pores; slightly effervescent; 2 percent gravel; slightly alkaline (pH 7.6); clear wavy boundary.

Bw2—12 to 27 inches; brown (7.5YR 5/4) sandy loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; soft, friable, nonsticky and nonplastic; few very fine roots; common fine tubular pores; common fine soft calcium carbonate masses and calcium carbonate coatings on undersides of gravel; slightly effervescent; 5 percent gravel; slightly alkaline (pH 7.6); abrupt wavy boundary.

C1—27 to 38 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, nonsticky and slightly plastic; few fine roots; common fine tubular pores; strongly effervescent; 5 percent gravel; slightly alkaline (7.8); abrupt wavy boundary.

C2—38 to 60 inches; light brown (7.5YR 6/4) very gravelly sandy loam, brown (7.5YR 5/4) moist; massive; soft, friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; strongly effervescent; 50 percent gravel; slightly alkaline (pH 7.8).

Range in Characteristics

Rock fragments: average 15 to 35 percent, dominantly gravel in the control section. The upper 10 inches may contain less than 15 percent gravel. Below 40 inches, the substratum may contain more than 35 percent.
Calcium carbonate equivalent: 5 to 10 percent, increasing with depth

A horizon:
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bw horizons:
Hue: 7.5YR, 10YR
Value: 4 through 6 dry, 3 through 5 moist
Chroma: 3 through 5, dry or moist
Texture: sandy loam, fine sandy loam, loam
Reaction: slightly to moderately alkaline

C horizons:
Texture: loamy coarse sand, sandy loam, loam

Meloland Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Flooding: None
Landform: Flood plains (protected)
Parent material: Alluvium derived from mixed rock sources
Slope range: 0 to 1 percent
Elevation: 500 to 700 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees
Frost-free period: 250 to 325 days
Classification: Coarse-loamy over clayey, mixed, superactive, calcareous, hyperthermic Typic Torrifluvents

Typical Pedon

Typical pedon of Meloland very fine sandy loam in an area of Meloland very fine sandy loam, 0 to 1 percent slopes; latitude of 34 degrees, 52 minutes, 5 seconds north and a longitude of 114 degrees, 31 minutes, 40 seconds west; 2,550 feet south and 50 feet east of the northwest corner of sec. 7, T. 17 N., R. 21W.

Ap—0 to 8 inches; pale brown (10YR 6/3) very fine sandy loam, brown (10YR 4/3) moist; weak fine granular structure; slightly hard, friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

C—8 to 19 inches; yellowish brown (10YR 5/4) very fine sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; strongly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Cz1—19 to 32 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; massive; very hard, very firm, moderately sticky and moderately plastic; many very fine roots; few very fine tubular pores; common pressure faces; few fine salt crystals; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

2Cz2—32 to 60 inches; brown (7.5YR 5/2) clay, dark brown (7.5YR 3/4) moist; massive; very hard, very firm, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; few pressure faces; few fine salt crystals; many iron stains; violently effervescent; moderately alkaline (8.0).

Range in Characteristics

Effervescence: slight to strong
Salinity (ECe): 2 to 16 dS/m

Sodicity (SAR): 4 to 20

Ap horizon:
Value: 5 or 6 dry

C and Cz horizons:
Texture: very fine sandy loam, clay

Mohon Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landform: Fan terraces
Parent material: Alluvium from volcanics
Slope range: 2 to 15 percent
Elevation: 1,900 to 3,800 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250
Classification: Fine, smectitic, thermic Typic Calciargids

Typical Pedon

Typical pedon of Mohon very cobbly loam in an area of Mohon-Poachie complex, 2 to 15 percent slopes; latitude of 34 degrees, 58 minutes, 01 seconds north and a longitude of 114 degrees, 14 minutes, 35 seconds west; 260 feet south and 700 feet east of the northwest corner of sec. 07, T. 18 N., R. 18 W.

A—0 to 2 inches; brown (7.5YR 5/4) very cobbly loam, dark brown (7.5YR 3/2) moist; moderate medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 30 percent cobble and 15 percent gravel; slightly effervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.

Bk—2 to 6 inches; strong brown (7.5YR 5/6) clay loam, strong brown (7.5YR 4/6) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; many very fine roots; many very fine tubular pores; strongly effervescent; 5 percent calcium carbonate equivalent; common fine soft calcium carbonate filaments; slightly alkaline (pH 7.8); clear wavy boundary.

Btk1—6 to 25 inches; strong brown (7.5YR 5/6) clay, brown (7.5YR 4/4) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; many very fine roots; many very fine tubular pores; few faint clay films on ped faces and in pores; 2 percent gravel; strongly effervescent, 10 percent calcium carbonate equivalent; few fine soft calcium carbonate masses; slightly alkaline (pH 7.8); clear wavy boundary.

Btk2—25 to 40 inches; strong brown (7.5YR 5/6) clay, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common fine roots; common fine tubular pores; common distinct clay films on ped faces and in pores; strongly effervescent, 15 percent calcium carbonate equivalent; 2 percent gravel; common medium soft calcium carbonate masses; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Btk3—40 to 47 inches; pink (7.5YR 7/4) cobbly clay loam, light brown (7.5YR 6/4) moist; moderate medium subangular blocky structure; hard, firm, slightly sticky and plastic; few very fine roots; few very fine tubular pores; common faint clay films on ped faces and in pores; 10 percent cobble and 15 percent gravel; strongly effervescent, 20 percent calcium carbonate equivalent; common soft calcium carbonate masses; moderately alkaline (pH 8.4); gradual wavy boundary.

2Btk4—47 to 60 inches; pink (7.5YR 8/4) cobbly clay loam, pink (7.5YR 7/4) moist; moderate medium subangular blocky structure; hard, firm, slightly sticky and plastic; few very fine roots; few very fine tubular pores; few faint clay films on ped faces and in pores; 10 percent cobble and 20 percent gravel; violently effervescent, 25 percent calcium carbonate equivalent; many coarse soft calcium carbonate masses; moderately alkaline (8.4).

Range in Characteristics

Depth to the calcic horizon: 20 to 40 inches

A horizon:
Hue: 7.5YR, 5YR
Value: 5 or 6 dry, 3 through 5 moist
Chroma: 4 through 6, dry or moist

Btk horizons:
Hue: 7.5YR, 5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 or 6, dry or moist
Texture: sandy clay loam, clay loam, sandy clay, clay (averages 35 to 50 percent clay)
Rock fragments: 0 to 15 percent gravel

2Btk horizons:
Hue: 10YR, 7.5YR
Value: 6 through 8 dry, 5 through 7 moist
Chroma: 4 through 6, dry or moist
Rock fragments: 15 to 35 percent cobble and gravel

Mutang Series

Depth class: Shallow to bedrock (paralithic)
Drainage class: Well drained
Permeability: Slow

Landform: Pediments, hills, and mountains
Parent material: Alluvium derived from igneous rock
Slope: 3 to 35 percent
Elevation: 2,400 to 5,800 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 59 to 68 degrees F
Frost-free period: 180 to 250 days
Classification: Clayey, mixed, superactive, thermic, shallow Typic Haplargids

Typical Pedon

Typical pedon of Mutang extremely gravelly sandy loam in an area of Wikieup-Mutang-Rock outcrop complex, 5 to 35 percent slopes; latitude of 34 degrees, 41 minutes, 05 seconds north and a longitude of 113 degrees, 47 minutes, 18 seconds west; 600 feet east and 2,400 feet south of the northwest corner of sec. 36, T. 16 N., R. 15 W.

A—0 to 3 inches; brown (7.5YR 5/3) extremely gravelly sandy loam, brown (7.5YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 65 percent gravel; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bt1—3 to 5 inches; brown (7.5YR 5/4) very gravelly clay loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; hard, firm, sticky and plastic; common very fine roots; common very fine tubular pores; few faint clay films on ped faces and in pores; 40 percent gravel; noneffervescent; slightly alkaline (PH 7.8); clear wavy boundary.

Bt2—5 to 15 inches; reddish brown (5YR 4/4) gravelly clay, dark reddish brown (5YR 3/4) moist; strong medium subangular blocky structure; hard, firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; common faint clay films on ped faces and in pores; 15 percent gravel; noneffervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Cr—15 to 22 inches; weathered granite.

2R—22 inches; granite.

Range in Characteristics

Depth to bedrock: 10 to 20 inches
Reaction: slightly or moderately alkaline

A horizon:
Hue: 10YR, 7.5YR
Value: 4 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bt horizons:
Hue: 5YR, 7.5YR
Value: 3 or 5 dry, 3 or 4 moist
Chroma: 4 to 6 dry, 3 or 4 moist
Texture: sandy clay, clay, clay loam (averages more than 35 percent clay)
Rock fragments: 5 to 35 percent gravel

Nickel family

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landform: Fan terraces and mesas
Parent material: Alluvium derived from mixed rock sources
Slope: 8 to 50 percent
Elevation: 2,900 to 4,500 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 190 to 250 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids

Typical Pedon

Typical pedon of Nickel family extremely stony loam in an area of Tumarion-Nickel family complex, 8 to 35 percent slopes; latitude of 35 degrees, 21 minutes, 25 seconds north and a longitude of 114 degrees, 03 minutes, 11 seconds west; 1,250 feet south and 1,300 feet east of the northwest corner of sec. 25, T. 23 N., R. 17 W.

A—0 to 4 inches; yellowish brown (10YR 5/4) extremely stony loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; many very fine roots; common fine tubular pores; 25 percent gravel, 20 percent cobble, and 20 percent stone; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw—4 to 23 inches; yellowish brown (10YR 5/4) very cobbly silt loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many fine and medium tubular pores; slightly effervescent; 20 percent gravel, 20 percent cobble; moderately alkaline (pH 8.0); clear wavy boundary.

Bk1—23 to 51 inches; very pale brown (10YR 8/3) very cobbly loam, pale brown (10YR 6/3) moist; strong fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many fine tubular pores; common fine soft calcium carbonate masses; violently effervescent; 20 percent gravel, 20 percent cobble; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—51 to 60 inches; pale brown (10YR 6/3) very cobbly sandy loam, brown (10YR 4/3) moist; strong

fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many fine tubular pores; violently effervescent; 20 percent gravel, 20 percent cobble; moderately alkaline (pH 8.2).

Range in Characteristics

Use of the "Nickel family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Depth to calcic horizon: 10 to 25 inches

Control section:
Clay content: averages 6 to 23 percent
Rock fragments: 40 to 85 percent

A horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bw horizon (when present):
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: silt loam or loam

Bk horizon:
Hue: 10YR, 7.5YR
Value: 6 to 8 dry, 4 to 6 moist
Chroma: 1 to 4, dry or moist
Calcium carbonate equivalent: 15 to 35 percent

Nodman Series

Depth class: Very shallow and shallow to bedrock (paralithic)
Drainage class: Well drained
Permeability: Moderately slow
Landform: Hills and mountains
Parent material: Alluvium, colluvium, or residuum weathered from granite
Slope: 15 to 65 percent
Elevation: 4,900 to 6,300 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 62 degrees F
Frost-free period: 200 to 230 days
Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Haplargids

Typical Pedon

Typical pedon of Nodman gravelly sandy loam in an area of Nodman-Rock outcrop complex, 15 to 65 percent slopes; latitude of 35 degrees, 21 minutes, 3.6 seconds north and a longitude of 113 degrees, 46 minutes, 9.6 seconds west; 1,600 feet south and 1,600 feet west of the northeast corner of sec. 28, T. 23 N., R. 14 W.

A—0 to 2 inches; light brown (7.5YR 6/4) gravelly sandy loam, brown (7.5YR 4/3) moist; weak medium platy structure parting to moderate very fine subangular blocky; soft, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine irregular pores; 30 percent gravel; noneffervescent; moderately acid (pH 5.8); abrupt smooth boundary.

Bt—2 to 10 inches; reddish yellow (7.5YR 6/6) very gravelly sandy clay loam, strong brown (7.5YR 5/6) moist; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine through medium roots; common very fine and fine irregular pores; few faint clay films bridging sand grains, common faint clay films lining pores and on faces of peds; 45 percent gravel; noneffervescent; moderately acid (pH 6.0); clear wavy boundary.

2Cr1—10 to 17 inches; highly weathered granite bedrock penetrated by roots; abrupt irregular boundary.

2Cr2—17 inches; fractured slightly weathered granite bedrock.

Range in Characteristics

Rock fragments: average 35 to 60 percent; less than 50 percent 2 to 5 millimeter gravel; some very shallow pedons may have as much as 75 percent
Depth to weathered bedrock: 5 to 20 inches
Reaction: moderately acid to neutral
Clay content: averages 20 to 35 percent in the control section

A horizon:
Hue: 10YR, 7.5YR
Value: 4 through 6 dry, 3 through 5 moist
Chroma: 3 or 4, dry or moist

Bt horizons:
Hue: 10YR, 7.5YR
Value: 4 through 6 dry, 3 through 5 moist
Chroma: 3 through 6, dry or moist
Texture: sandy clay loam, clay loam, loam

Orwash family

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapid
Landform: Fan terraces
Parent material: Alluvium derived from granite

Slope range: 1 to 3 percent
Elevation: 1,450 to 4,000 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 230 days
Classification: Sandy, mixed, thermic Typic Torriorthents

Typical Pedon

Typical pedon of Orwash family sandy loam in an area of Orwash family sandy loam, 1 to 3 percent slopes; latitude of 34 degrees, 38 minutes, 30 seconds north and a longitude of 113 degrees, 51 minutes, 40 seconds west; 2,350 feet south and 50 feet east of the northwest corner of sec. 17, T. 15 N., R. 15 W.

A1—0 to 2 inches; brown (7.5YR 5/4) sandy loam, brown (7.5YR 4/4) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic many fine roots; many fine irregular pores; 10 percent gravel; noneffervescent; neutral (pH 7. 2); abrupt wavy boundary.

A2—2 to 14 inches; light brown (7.5YR 6/4) coarse sandy loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; few fine tubular pores; 2 percent cobble and 10 percent gravel; noneffervescent; neutral (pH 7.2); clear wavy boundary.

C1—14 to 26 inches; light brown (7.5YR 6/4) gravelly loamy sand, brown (7.5YR 5/4) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 20 percent gravel; slightly effervescent; slightly alkaline (pH 7.4); abrupt wavy boundary.

C2—26 to 47 inches; pink (7.5YR 7/4) gravelly sand, light brown (7.5YR 6/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many fine irregular pores; 25 percent gravel; strongly effervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.

2Btkb—47 to 60 inches; strong brown (7.5YR 5/6) gravelly sandy clay loam, strong brown (7.5YR 4/6) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine roots; many fine tubular pores; common moderately thick clay films on faces of peds; few fine soft calcium carbonate masses; strongly effervescent; 20 percent gravel; slightly alkaline (pH 7.8).

Range in Characteristics

Use of the "Orwash family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4 dry or moist
Rock fragments: 5 to 15 percent gravel

C horizons:
Hue: 7.5YR, 10YR
Value: 5 through 7 dry, 4 through 6 moist
Chroma: 4 or 6 dry or moist
Texture: coarse sandy loam, loamy sand, sand
Rock fragments: 10 to 25 percent gravel

2Btkb horizon:
Not present in some pedons.

Penthouse Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 5 to 15 percent
Elevation: 3,650 to 5,600 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Fine, mixed, superactive, thermic Ustic Calciargids

Typical Pedon

Typical pedon of Penthouse very cobbly loam in an area of Penthouse-Gonzales complex, 5 to 35 percent slopes; latitude of 34 degrees, 54 minutes, 34 seconds north and a longitude of 113 degrees, 24 minutes, 18 seconds west; 1,200 feet north and 400 feet east of the southwest corner of sec. 25, T. 18 N., R. 11 W.

A—0 to 2 inches; reddish gray (5YR 5/2) very cobbly loam, dark reddish brown (5YR 3/2) moist; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine vesicular pores; 25 percent gravel, 20 percent cobble; noneffervescent; neutral (pH 7.0); abrupt wavy boundary.

BA—2 to 8 inches; reddish gray (5YR 5/2) gravelly clay loam, dark reddish gray (5YR 4/2) moist; weak medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic;

many very fine roots; many very fine tubular pores; 15 percent gravel, 5 percent cobble; noneffervescent; neutral (pH 7.0); clear wavy boundary.

Bt—8 to 27 inches; reddish brown (5YR 4/3) gravelly clay, dark reddish brown (5YR 3/3) moist; moderate medium prismatic structure parting to strong medium subangular blocky; very hard, very firm, very sticky and very plastic; many very fine roots; many very fine tubular pores; common distinct clay films on faces of peds; few pressure faces; 10 percent calcium carbonate equivalent; slightly effervescent; 15 percent gravel, 10 percent cobble; neutral (pH 7.2); clear wavy boundary.

Btk—27 to 40 inches; reddish brown (5YR 5/4) gravelly clay loam, reddish brown (5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; common distinct clay films on faces of peds; 19 percent calcium carbonate equivalent; strongly effervescent; 15 percent gravel, 5 percent cobble; slightly alkaline (pH 7.8); abrupt irregular boundary.

2Btkb—40 to 47 inches; yellowish red (5YR 5/6) gravelly sandy loam, yellowish red (5YR 4/6) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; few distinct clay films on faces of peds; few medium calcium carbonate masses; 13 percent calcium carbonate equivalent; strongly effervescent; 25 percent gravel, 5 percent cobble; slightly alkaline (pH 7.8); abrupt wavy boundary.

2Bkb—47 to 60 inches; brown (7.5YR 5/4) very gravelly loamy sand, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few fine irregular pores; few large soft calcium carbonate masses; 9 percent calcium carbonate equivalent; strongly effervescent; 30 percent gravel, 10 percent cobble; slightly alkaline (pH 7.8).

Range in Characteristics

Depth to a calcic horizon: 25 to 35 inches
Effervescence: none to strong

A horizon:
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 3 through 5 moist

Bt horizon:
Hue: 5YR, 7.5YR
Value: 4 through 6 dry, 3 through 5 moist
Texture: gravelly clay, gravelly clay loam

Btk horizon:
Hue: 5YR, 7.5YR
Value: 4 through 6 dry, 3 through 5 moist
Chroma: 4 through 6 dry and moist
Texture: gravelly clay, gravelly clay loam
Calcium carbonate equivalent: 10 to 20 percent

2Btkb and 2Bkb horizons:
Coarse fragments: 30 to 40 percent cobble and gravel

Poachie Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landform: Fan terraces
Parent material: Alluvium from volcanics
Slope range: 1 to 15 percent
Elevation: 1,800 to 4,000 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids

Typical Pedon

Typical pedon of Poachie gravelly sandy loam in an area of Mohon-Poachie complex, 2 to 15 percent slopes; latitude of 34 degrees, 40 minutes, 13 seconds north and a longitude of 113 degrees, 55 minutes, 54 seconds west; 1,550 feet east and 2,500 feet south of the northwest corner of sec. 01, T. 15 N., R. 16 W.

A—0 to 2 inches; yellowish brown (10YR 5/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots; few fine irregular pores; 15 percent gravel; slightly effervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bw—2 to 24 inches; brown (7.5YR 5/4) sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common fine tubular pores; 10 percent gravel; slightly effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Btk—24 to 38 inches; brown (7.5YR 5/4) sandy clay loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, soft, slightly sticky and slightly plastic; common very fine roots; common fine tubular pores; common faint clay films on faces of peds and lining pores; 10 percent gravel; strongly effervescent, 12 percent calcium carbonate equivalent; many very fine soft calcium carbonate masses; moderately alkaline (pH 8.0); clear smooth boundary.

Bk—38 to 60 inches; pink (7.5YR 8/4) gravelly coarse sandy loam, pink (7.5YR 7/4) moist; weak fine

subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common fine tubular pores; 15 percent gravel; violently effervescent, 30 percent calcium carbonate equivalent; moderately alkaline (pH 8.2).

Range in Characteristics

Rock fragments: average less than 15 percent in the control section.
Depth to calcic horizon: 14 to 38 inches; 15 to 30 percent calcium carbonate equivalent

A horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist

Bw horizon:
Hue: 7.5YR, 5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 to 6, dry or moist

Btk horizon:
Hue: 7.5YR, 5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 4 to 6, dry or moist
Texture: sandy clay loam, loam (20 to 27 percent clay)

Bk horizon:
Hue: 7.5YR, 5YR
Value: 6 to 8 dry, 5 to 7 moist
Chroma: 4 to 6, dry or moist
Rock fragments: 15 to 35 percent gravel

Quilotosa Series

Depth class: Shallow and very shallow
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landform: Hills and mountains
Parent material: Mixed igneous and metamorphic alluvium and colluvium
Slope range: 20 to 60 percent
Elevation: 500 to 3,000 feet
Mean annual precipitation: 7 to 10 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents

Typical Pedon

Typical pedon of Quilotosa extremely gravelly sandy loam in an area of Quilotosa-Rock outcrop complex, 20 to 60 percent slopes; latitude of 34 degrees, 39 minutes, 03 seconds north and a longitude of 114 degrees, 20 minutes, 46 seconds west; 1,000 feet north and 1,700 feet east of the southwest corner of sec. 10, T. 15 N., R. 20 W.

A—0 to 3 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, brown (7.5YR 5/4) moist; moderate medium platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 5 percent cobble and 65 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bw—3 to 9 inches; light brown (7.5YR 6/4) very gravelly sandy loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; slightly hard, very friable nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 50 percent gravel; few calcium carbonate filaments on the underside of gravel; slightly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2Cr—9 to 15 inches; slightly weathered and highly fractured granite; clear irregular boundary.

2R—15 inches; granite bedrock.

Range in Characteristics

Depth to bedrock: 9 to 12 inches

Bw horizon:
Value: 4 or 5 moist
Coarse fragments: 40 to 50 percent gravel

Razorback Series

Depth class: Very shallow and shallow to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: Moderate
Landform: Hills and mountains
Parent material: Alluvium and/or colluvium derived from igneous rock
Slope: 1 to 70 percent
Elevation: 1,700 to 5,000 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 280 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents

Typical Pedon

Typical pedon of Razorback extremely cobbly loam in an area of Razorback-Rock outcrop-Rubble land complex, dry, 40 to 70 percent slopes; latitude of 34 degrees, 31 minutes, 17 seconds north and a longitude of 114 degrees, 01 minutes, 29 seconds west; 1,500 feet north and 2,000 feet west of the southeast corner of sec. 27, T. 14 N., R. 17 W.

A—0 to 2 inches; light yellowish brown (10YR 6/4)

extremely cobbly loam, dark yellowish brown (10YR 4/4) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; few fine roots; few fine irregular pores; 10 percent stone, 35 percent cobble, 25 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bk—2 to 15 inches; light yellowish brown (10YR 6/4) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; 70 percent gravel; calcium carbonate coatings on the underside of gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2R—15 inches; basalt, calcium carbonate coatings in fractures.

Range in Characteristics

Depth to bedrock: 4 to 20 inches

A horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Rock fragments: 35 to 75 percent gravel, cobble and stone

Bk horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: loam, sandy loam (7 to 18 percent clay)
Rock fragments: 35 to 70 percent gravel

Rillino Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 2 to 35 percent
Elevation: 1,700 to 3,400 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids

Typical Pedon

Typical pedon of Rillino gravelly sandy loam in an area of Continental-Rillino complex, 2 to 15 percent slopes; latitude of 34 degrees, 48 minutes, 44 seconds north and a longitude of 113 degrees, 39 minutes, 03 seconds west; 2,600 feet south and 400 feet east of the northwest corner of sec. 34, T. 17 N., R. 13 W.

A—0 to 2 inches; brown (7.5YR 5/2) gravelly sandy loam, brown (7.5YR 4/2) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many fine roots; many very fine irregular pores; strongly effervescent; 5 percent calcium carbonate equivalent; 20 percent gravel; neutral (pH 7.2); abrupt wavy boundary.

Bw—2 to 8 inches; light brown (7.5YR 6/4) gravelly sandy clay loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; common very fine tubular pores; 8 percent calcium carbonate equivalent; violently effervescent; 20 percent gravel; moderately alkaline (pH 8.0); clear wavy boundary.

Bk1—8 to 16 inches; light brown (7.5YR 6/4) gravelly sandy clay loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; few fine soft calcium carbonate masses; 12 percent calcium carbonate equivalent; violently effervescent; 15 percent gravel, 5 percent cobble; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—16 to 27 inches; light brown (7.5YR 6/4) gravelly sandy loam, brown (7.5YR 5/4) moist, massive; slightly hard, friable, nonsticky and nonplastic; common very fine roots; common fine tubular pores; many coarse soft calcium carbonate masses; weakly cemented; 27 percent calcium carbonate equivalent; violently effervescent; 25 percent gravel; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bk3—27 to 39 inches; light brown (7.5YR 6/4) gravelly loamy sand, brown (7.5YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; common very fine roots; common fine irregular pores; many coarse soft calcium carbonate masses; weakly cemented; 24 percent calcium carbonate equivalent; violently effervescent; 20 percent gravel; moderately alkaline (pH 8.2); clear wavy boundary.

Bk4—39 to 54 inches; pink (7.5YR 7/4) gravelly loamy sand, light brown (7.5YR 6/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; common fine irregular pores; many coarse soft calcium carbonate masses; 18 percent calcium carbonate equivalent; violently effervescent; 25 percent gravel; moderately alkaline (pH 8.4); clear wavy boundary.

Bk5—54 to 60 inches; light brown (7.5YR 6/4) gravelly loamy sand, brown (7.5YR 5/4) moist;

massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common fine irregular pores; many coarse soft calcium carbonate masses; 25 percent calcium carbonate equivalent; violently effervescent; 25 percent gravel; moderately alkaline (pH 8.4).

Range in Characteristics

Depth to calcic horizon: 5 to 20 inches
Rock fragments: average 15 to 30 percent in the control section.

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2 through 4, dry or moist
Texture: gravelly sandy loam, gravelly loamy sand
Rock fragments: 15 to 25 percent gravel

B horizons:
Value: 6 or 7 dry, 4 through 6 moist
Calcium carbonate equivalent: 10 to 30 percent

Ripley Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Flooding: None
Landform: Flood plains (protected)
Parent material: Alluvium derived from mixed rock sources
Slope range: 0 to 3 percent
Elevation: 450 to 1,400 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Coarse-silty over sandy or sandy-skeletal, mixed, superactive, calcareous, hyperthermic Typic Torrifluvents

Typical Pedon

Typical pedon of Ripley silt loam in an area of Ripley silt loam, 0 to 1 percent slopes; latitude of 34 degrees, 56 minutes, 20 seconds north and a longitude of 114 degrees, 34 minutes, 51 seconds west; 400 feet west and 800 feet north of the southeast corner of sec. 14, T. 18 N., R. 22 W.

Az—0 to 2 inch; yellowish brown (10YR 5/4) silt loam, dark yellowish brown (10YR 3/4) moist; weak thin platy structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; few fine salt crystals; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Cz—2 to 26 inches; dark yellowish brown (10YR 4/4) silt loam, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; few fine salt crystals; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C—26 to 60 inches; dark yellowish brown (10YR 4/4) fine sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; strongly effervescent; moderately alkaline (pH 8.4).

Range in Characteristics

Salinity (ECe): 2 to 14 dS/m
Sodicity (SAR): 4 to 15
Depth to strongly contrasting particle size: 20 to 40 inches
Rock fragments: 0 to 30 percent
Texture: silt loam or very fine sandy loam with less than 18 percent clay and less than 15 percent fine sand or coarser sand in the upper part; fine sand or loamy fine sand in the lower part

A horizon:
Value: 4 through 6 dry
Chroma: 3 or 4, dry or moist

C horizon:
Value: 4 through 6 dry
Chroma: 3 or 4, dry or moist
Effervescence: strong to violent

Riverbend Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 2 to 15 percent
Elevation: 550 to 2,300 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids

Typical Pedon

Typical pedon of Riverbend very cobbly sandy loam in an area of Riverbend very cobbly sandy loam, 2 to 15 percent slopes; latitude of 34 degrees, 46 minutes, 45 seconds north and a longitude of 114 degrees, 24 minutes, 42 seconds west; 680 feet west and 2,350

feet north of the southeast corner of sec. 25, T. 16-1/2 N., R. 20-1/2 W.

A—0 to 2 inches; brown (7.5YR 5/4) very cobbly sandy loam, brown (7.5YR 4/4) moist; moderate medium platy structure; soft, friable, nonsticky and nonplastic; common fine roots; many fine irregular pores; 25 percent cobble and 30 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.

Bw—2 to 7 inches; brown (7.5YR 5/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; soft, friable, nonsticky and nonplastic; common fine roots; common fine tubular pores; 5 percent cobble and 30 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk1—7 to 18 inches; light brown (7.5YR 6/4) very cobbly loamy sand, brown (7.5YR 5/4) moist; massive; loose, nonsticky and nonplastic; common very fine roots; many fine irregular pores; 20 percent cobble and 30 percent calcium carbonate coated gravel; many large soft calcium carbonate accumulations; violently effervescent, 12 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary.

Bk2—18 to 34 inches; light brown (7.5YR 6/4) very gravelly loamy sand, brown (7.5YR 5/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; common fine irregular pores; 40 percent calcium carbonate coated gravel; common medium soft calcium carbonate accumulations; violently effervescent, 16 percent calcium carbonate equivalent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk3—34 to 60 inches; brown (7.5YR 5/4) very gravelly sand, brown (7.5YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; common fine irregular pores; 10 percent cobble and 45 percent calcium carbonate coated gravel; strongly effervescent, 10 percent calcium carbonate equivalent; moderately alkaline (pH 8.0).

Range in Characteristics

Rock fragments: 35 to 75 percent in the control section; mostly gravel with up to 30 percent cobble
Depth to calcic horizon: 4 to 20 inches
Calcium carbonate equivalent: 7 to 20 percent in the control section
Reaction: slightly to strongly alkaline
Effervescence: strong to violent

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

B horizon:
Hue: 7.5YR, 10YR
Value: 5 through 7 dry, 4 through 6 moist
Chroma: 3 or 4, dry or moist
Calcium carbonate equivalent: 10 to 20 percent
Texture: loamy sand, sand

Bw horizons are absent in some pedons.

Riverbend family

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 2 to 15 percent
Elevation: 550 to 2,200 feet
Mean annual precipitation: 3 to 7 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids

Typical Pedon

Typical pedon of Riverbend family very gravelly sandy loam in an area of Chuckawalla-Riverbend families complex, 2 to 15 percent slopes; latitude of 34 degrees, 26 minutes, 04 seconds north and a longitude of 114 degrees, 14 minutes, 27 seconds west; 1,450 feet north and 1,700 feet east of the southwest corner of sec. 27, T. 13 N., R. 19 W.

A—0 to 2 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 8 percent calcium carbonate equivalent; strongly effervescent; 55 percent gravel; moderately alkaline (pH 8.0); clear wavy boundary.

BA—2 to 6 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 5/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 11 percent calcium carbonate equivalent; strongly effervescent; 40 percent gravel; moderately alkaline (pH 8.2); clear wavy boundary.

Bk1—6 to 11 inches; very pale brown (10YR 7/3), very gravelly sandy loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; few fine soft calcium carbonate masses; 15 percent calcium

carbonate equivalent; violently effervescent; 40 percent gravel; moderately alkaline (pH 8.4); clear wavy boundary.

Bk2—11 to 26 inches; light gray (10YR 7/2) very gravelly loamy sand, brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many fine roots; common very fine irregular pores; common fine soft calcium carbonate masses; 16 percent calcium carbonate equivalent; violently effervescent; 35 percent gravel; moderately alkaline (pH 8.4); clear wavy boundary.

Bk3—26 to 40 inches; very pale brown (10YR 7/3) very gravelly loamy sand, brown (10YR 5/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; many fine roots; few very fine irregular pores; common fine soft calcium carbonate masses; common very pale brown (10YR 8/3) calcium carbonate cemented masses; 27 percent calcium carbonate equivalent; violently effervescent; 50 percent gravel; moderately alkaline (pH 8.4); clear wavy boundary.

Bk4—40 to 60 inches; pale brown (10YR 6/3) very gravelly loamy sand, brown (10YR 4/3) moist; massive; hard, firm, nonsticky and nonplastic; common very fine roots; few very fine irregular pores; few strata of weakly calcium carbonate cemented sand and gravel; 10 percent calcium carbonate equivalent; strongly effervescent; 55 percent gravel; moderately alkaline (pH 8.4).

Range in Characteristics

Use of the "Riverbend family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Coarse fragments: 35 to 60 percent gravel
Effervescence: strong to violent

A horizon:
Value: 5 or 6 dry
Rock fragments: 50 to 55 percent cobble and gravel

BA and Bk1 horizons:
Value: 5 or 6 dry
The BA horizon is not present in all pedons.

Bk2, Bk3, and Bk4 horizons:
Value: 5 through 7 dry
Calcium carbonate equivalent: 10 to 20 percent
Texture: loamy sand, sand

Romero Series

Depth class: Very shallow or shallow to bedrock (paralithic)
Drainage class: Well drained
Permeability: Moderately rapid
Landform: Hills and mountains
Parent material: Alluvium derived from granite
Slope: 5 to 70 percent
Elevation: 3,400 to 5,600 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents

Typical Pedon

Typical pedon of Romero extremely cobbly sandy loam in an area of Romero-Lampshire-Rock outcrop complex, 35 to 70 percent slopes; latitude of 34 degrees, 39 minutes, 22 seconds north and a longitude of 113 degrees, 23 minutes, 27 seconds west; 2,450 feet south and 250 feet west of the northeast corner of sec. 10, T. 15 N., R. 11 W.

A—0 to 1 inch; dark yellowish brown (10YR 4/4) extremely cobbly sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; 40 percent gravel, 20 percent cobble, and 5 percent stone; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

Bw—1 to 6 inches; dark yellowish brown (10YR 4/4) very gravelly sandy clay loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine roots; common very fine tubular pores; 35 percent gravel and 5 percent cobble; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

2Cr—6 to 60 inches; slightly weathered granite bedrock.

Range in Characteristics

Rock fragments: average 35 to 90 percent
Reaction: neutral or slightly alkaline

A horizon:
Hue: 10YR, 7.5YR
Value: 3 or 4, dry or moist
Chroma: 3 or 4, dry or moist

Texture: sandy loam, fine sandy loam

Romero family

Depth class: Very shallow and shallow to bedrock (paralithic)
Drainage class: Well drained
Permeability: Moderately rapid
Landform: Hills and mountains
Parent material: Alluvium and/or colluvium derived from metamorphic rock over residuum weathered from metamorphic rock
Slope: 15 to 65 percent
Elevation: 4,900 to 6,200 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 62 degrees F
Frost-free period: 200 to 230 days
Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents

Typical Pedon

Typical pedon of Romero family very gravelly sandy loam in an area of Nodman-Romero family complex, 15 to 65 percent slopes; latitude of 35 degrees, 14 minutes, 21.1 seconds north and a longitude of 113 degrees, 46 minutes, 2.7 seconds west; 65 feet south and 970 feet west of the northeast corner of sec. 04, T. 21 N., R. 14 W.

A—0 to 2 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak medium platy structure parting to weak very fine subangular blocky; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine tubular pores; 45 percent gravel, 5 percent channer and 5 percent cobble; noneffervescent; moderately acid (pH 6.0); clear wavy boundary.

Bw—2 to 7 inches; yellowish brown (10YR 5/4) extremely cobbly sandy loam, brown (10YR 4/3) moist; moderate very fine and fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; 25 percent gravel, 10 percent channer and 30 percent cobble; noneffervescent to very slightly effervescent; neutral (pH 7.3); abrupt wavy boundary.

2Cr—7 to 21 inches; moderately weathered to highly weathered schist with soil in fractures; fracture faces are coated with calcium carbonate, abrupt irregular boundary.

2R—21 inches; fractured very slightly weathered to unweathered, hard schist.

Range in Characteristics

Use of the "Romero family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Rock fragments: 35 to 65 percent in the particle-size control section
Reaction: moderately acid to slightly alkaline
Clay content: 8 to 18 percent in the particle-size control section
Effervescence: none to slight

A horizons:
Hue: 7.5YR, 10YR
Value: 4 to 5 dry, 3 to 4 moist
Chroma: 3 to 4, dry or moist

Bw horizons:
Hue: 10YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loam

Rositas Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapid
Landform: Sand sheets and dunes
Parent material: Eolian sand
Slope range: 5 to 30 percent
Elevation: 500 to 1,600 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Mixed, hyperthermic Typic Torripsamments

Typical Pedon

Typical pedon of Rositas sand in an area of Rositas, Superstition family and Torriorthents soils, 1 to 60; latitude of 34 degrees, 45 minutes, 53 seconds north and a longitude of 114 degrees, 23 minutes, 41 seconds west; 375 feet north and 2,400 feet west of the southeast corner of sec. 31, T. 16 1/2 N., R. 20 W.

A—0 to 1 inch; pinkish gray (7.5YR 7/2) sand, pinkish gray (7.5YR 6/2) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; noneffervescent; neutral (pH 7.2); clear wavy boundary.

C1—1 to 13 inches; pinkish gray (7.5YR 7/2) sand, pinkish gray (7.5YR 6/2) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; many fine irregular pores; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

C2—13 to 60 inches; pink (7.5YR 7/4) sand, light

brown (7.5YR 6/4) moist; single grain; loose, nonsticky and nonplastic; few fine roots; many fine irregular pores; slightly effervescent; slightly alkaline (pH 7.8).

Range in Characteristics

Rock fragments: less than 15 percent gravel
Coppice dunes: 2 to 12 inches high under all shrubs
Effervescence: none in the upper part to slight throughout
Reaction: neutral or slightly alkaline

C horizons:
Value: 5 through 6 moist
Chroma: 2 through 6 dry, 2 through 4 moist
Texture: loamy sand, sand, fine sand

Rositas family

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapid
Landform: Sand sheets and dunes
Parent material: Eolian sand
Slope range: 5 to 30 percent
Elevation: 500 to 600 feet
Mean annual precipitation: 3 to 7 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Mixed, hyperthermic Typic Torripsamments

Typical Pedon

Typical pedon of Rositas family fine sand in an area of Rositas family, Superstition and Torriorthents soils, 1 to 60 percent slopes; latitude of 34 degrees, 33 minutes, 46 seconds north and a longitude of 114 degrees, 23 minutes, 04 seconds west; 700 feet north and 700 feet east of the southwest corner of sec. 08, T. 14 N., R. 20 W.

C1—0 to 17 inches; light yellowish brown (10YR 6/4) fine sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; common fine roots; many very fine irregular pores; 5 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); gradual wavy boundary.

C2—17 to 60 inches; light yellowish brown (10YR 6/4) sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; few fine roots; many very fine irregular pores; 5 percent gravel; slightly effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

Use of the "Rositas family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Effervescence: none to slight
Reaction: neutral to moderately alkaline

C horizons:
Value: 4 through 6 moist
Chroma: 2 through 6 dry, 2 through 4 moist
Texture: sand, fine sand

Stagecoach Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 2 to 50 percent
Elevation: 1,800 to 4,400 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids

Typical Pedon

Typical pedon of Stagecoach very gravelly sandy loam in an area of Stagecoach very gravelly sandy loam, dry, 5 to 35 percent slopes; latitude of 34 degrees, 32 minutes, 42 seconds north and a longitude of 113 degrees, 38 minutes, 12 seconds west; 500 feet south and 800 feet west of the northeast corner of sec. 20, T. 14 N., R. 13 W.

A—0 to 2 inches; light brown (7.5YR 6/4) very gravelly sandy loam, brown (7.5YR 5/4) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; many fine irregular pores; 5 percent cobble and 40 percent gravel; strongly effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw1—2 to 10 inches; light brown (7.5YR 6/4) gravelly loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; few fine irregular pores; 25 percent gravel; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bw2—10 to 19 inches; pink (7.5YR 7/4) gravelly loam, light brown (7.5YR 6/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots; few

fine irregular pores; 20 percent gravel; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bk1—19 to 36 inches; pinkish white (7.5YR 8/2) very gravelly sandy loam, pinkish gray (7.5YR 7/2) moist; massive; slightly hard, friable, nonsticky and nonplastic; common very fine roots; common fine irregular pores; calcium carbonate coatings on undersides of gravel; many medium soft calcium carbonate masses; violently effervescent; 55 percent gravel; moderately alkaline (pH 8.2); gradual wavy boundary.

Bk2—36 to 60 inches; pinkish white (7.5YR 8/2) very gravelly sandy loam, pinkish gray (7.5YR 7/2) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine roots; few fine irregular pores; weakly cemented by calcium carbonate; calcium carbonate coatings on underside of cobble and gravel; many large soft calcium carbonate masses; violently effervescent; 10 percent cobble and 45 percent gravel; moderately alkaline (pH 8.2).

Range in Characteristics

Depth to a calcic horizon: 12 to 25 inches
Rock fragments: 35 to 55 percent

A horizon:
Hue: 7.5YR, 10YR

B horizons:
Value: 6 through 8 dry, 5 through 7 moist
Chroma: 2 through 4, dry or moist
Calcium carbonate equivalent: 15 to 25 percent in the Bk horizon

Sunrock Series

Depth class: Very shallow and shallow to bedrock (lithic)
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landform: Hills and mountains
Parent material: Colluvium derived from volcanic rock
Slope: 15 to 65 percent
Elevation: 1,150 to 3,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 78 degrees F
Frost-free period: 250 to 340 days
Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents

Typical Pedon

Typical pedon of Sunrock extremely gravelly sandy loam in an area of Sunrock extremely gravelly sandy loam, 15 to 35 percent slopes; latitude of 35 degrees, 45 minutes, 58 seconds north and a longitude of 114 degrees, 39 minutes, 10 seconds west; 850 feet north and 1,800 feet west of the southeast corner of sec. 32, T. 28 N., R. 22 W.

A—0 to 2 inches; brown (10YR 5/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; loose, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 65 percent gravel and 5 percent cobble; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw—2 to 5 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 50 percent gravel with few thin calcium carbonate coatings; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2R—5 inches; thin layer of weathered andesite over hard andesite; common calcium carbonate coatings on rock surfaces and in fractures.

Range in Characteristics

Reaction: slightly or moderately alkaline
Rock fragments: 35 to 65 percent
Clay content: 5 to 20 percent; averages less than 18 percent
Depth to bedrock: 4 to 20 inches

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: loamy sand, sandy loam, fine sandy loam
Calcium carbonate equivalent: 1 to 15 percent

Bw horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: fine sandy loam, sandy loam, loam
Calcium carbonate equivalent: 1 to 15 percent

Superstition Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapid
Landform: Sand sheets
Parent material: Eolian sand
Slope range: 1 to 10 percent
Elevation: 450 to 950 feet
Mean annual precipitation: 3 to 7 inches
Mean annual air temperature: 70 to 74 degrees F

Frost-free period: 250 to 325 days
Classification: Sandy, mixed, hyperthermic Typic Haplocalcids

Typical Pedon

Typical pedon of Superstition gravelly fine sand in an area of Rositas family, Superstition and Torriorthents soils, 1 to 60 percent slopes; latitude of 34 degrees, 33 minutes, 28 seconds north and a longitude of 115 degrees, 23 minutes, 50 seconds west; 1,700 feet east and 300 feet south of the northwest corner of sec. 7, T. 14 N., R. 20 W.

A—0 to 1 inch; light yellowish brown (10YR 6/4) gravelly fine sand, yellowish brown (10YR 5/4) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine irregular pores; 20 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—1 to 7 inches; light yellowish brown (10YR 6/4) fine sand, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine irregular pores; discontinuous areas of few medium soft calcium carbonate masses; strongly effervescent; 10 percent gravel; moderately alkaline (pH 8.2); clear wavy boundary.

Bk1—7 to 16 inches; light yellowish brown (10YR 6/4) fine sand, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine irregular pores; few medium soft calcium carbonate masses; violently effervescent; 10 percent gravel; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—16 to 22 inches; light yellowish brown (10YR 6/4) fine sand, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; many large soft calcium carbonate masses; violently effervescent; 5 percent gravel; moderately alkaline (pH 8.2); clear wavy boundary.

Bk3—22 to 60 inches; light yellowish brown (10YR 6/4) fine sand, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine irregular pores; common very fine and fine soft calcium carbonate masses and rounded concretions; violently effervescent; 5 percent gravel; moderately alkaline (pH 8.2).

Range in Characteristics

Rock fragments: less than 15 percent gravel
Effervescence: strong to violent

A horizon:
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 4 or 5 moist

B horizons:
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 3 through 5 moist
Chroma: 3 or 4, dry or moist
Calcium carbonate equivalent: 5 to 15 percent

Superstition family

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapid
Landform: Sand sheets
Parent material: Eolian sand
Slope range: 1 to 10 percent
Elevation: 500 to 1,600 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Sandy, mixed, hyperthermic Typic Haplocalcids

Typical Pedon

Typical pedon of Superstition family fine sand in an area of Rositas, Superstition family and Torriorthents soils, 1 to 60 percent slopes; latitude of 34 degrees, 45 minutes, 15 seconds north and a longitude of 114 degrees, 24 minutes, 14 seconds west; 400 feet west and 2,600 feet south of the northeast corner sec. 36, T. 161/2 N., R. 201/2 W.

A—0 to 2 inches; very pale brown (10YR 7/4) fine sand, yellowish brown (10YR 5/4) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many fine irregular pores; 10 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk1—2 to 35 inches; very pale brown (10YR 7/3) fine sand, pale brown (10YR 6/3) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; many fine irregular pores; many fine rounded calcium carbonate masses and concretions; violently effervescent; 5 percent gravel; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—35 to 60 inches; very pale brown (10YR 7/3) fine sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many fine irregular pores; few fine soft calcium carbonate masses; strongly effervescent; 5 percent gravel; moderately alkaline (pH 8.0).

Range in Characteristics

Use of the "Superstition family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Rock fragments: less than 15 percent gravel
Effervescence: strong to violent

A horizon:
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 4 or 5 moist

Bk horizons:
Hue: 7.5YR, 10YR
Value: 6 or 7 dry, 3 through 5 moist
Chroma: 3 or 4, dry or moist
Calcium carbonate equivalent: 10 to 25 percent

Tombstone Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landform: Fan terraces
Parent material: Alluvium derived from granite
Slope range: 15 to 50 percent
Elevation: 3,200 to 4,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Loamy-skeletal, mixed, superactive, thermic Ustic Haplocalcids

Typical Pedon

Typical pedon of Tombstone extremely cobbly loam in an area of Tombstone-Caralampi-Eloma complex, 10 to 50 percent slopes; latitude of 35 degrees, 04 minutes, 13 seconds north and a longitude of 113 degrees, 47 minutes, 17 seconds west; 1,730 feet north and 1,600 feet east of the southwest corner of sec. 32, T. 20 N., R. 14 W.

A—0 to 1 inch; brown (10YR 4/3) extremely cobbly loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; many very fine roots; many very fine irregular pores; 30 percent gravel, 30 percent cobble, 10 percent stone; slightly effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw—1 to 4 inches; brown (10YR 4/3) 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; many very fine tubular pores; 30 percent gravel, 10 percent cobble; slightly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bk—4 to 22 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 30 percent gravel, 10 percent cobble; violently effervescent; few fine soft calcium carbonate masses; moderately alkaline (pH 8.0); clear wavy boundary.

Ck—22 to 60 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; 30 percent gravel, 10 percent cobble; violently effervescent; few fine soft calcium carbonate masses; areas of decomposing rocks; moderately alkaline (pH 8.0).

Range in Characteristics

A horizon:
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 2 through 4, dry or moist

B horizon:
Hue: 7.5YR, 10YR
Value: 4 through 6, dry or moist
Chroma: 2 through 4, dry or moist
Rock fragments: 35 to 60 percent gravel and cobble

Topawa family

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Landform: Fan terraces
Parent material: Alluvium and/or colluvium derived from mixed rock sources
Slope: 10 to 50 percent
Elevation: 1,800 to 4,400 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids

Typical Pedon

Typical pedon of Topawa family very gravelly loamy sand in an area of Nickel-Topawa-Eba families complex, 10 to 50 percent slopes; latitude of 34 degrees, 58 minutes, 29 seconds north and a longitude of 113 degrees, 43 minutes, 10 seconds west; 1,400

feet south and 1,000 feet east of the northwest corner of sec. 01, T. 18 N., R. 14 W.

A—0 to 3 inches; brown (7.5YR 5/3) very gravelly loamy sand, dark brown (7.5YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine irregular pores; 15 percent cobble and 35 percent gravel; noneffervescent; neutral (pH 7.0); abrupt wavy boundary.

Bt1—3 to 18 inches; reddish brown (5YR 5/4) very gravelly sandy clay loam, dark reddish brown (5YR 3/4) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine roots; many very fine tubular pores; common distinct clay films on faces of peds; 50 percent gravel; noneffervescent; neutral (pH 7.2); clear wavy boundary.

Bt2—18 to 50 inches; strong brown (7.5YR 5/6) very gravelly sandy loam, strong brown (7.5YR 4/6) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; few faint clay films bridging sand grains; 45 percent gravel; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

C—50 to 58 inches; reddish yellow (7.5YR 6/6) gravelly loamy sand, strong brown (7.5YR 5/6) moist; single grain; slightly hard, friable, nonsticky and nonplastic; few fine roots; few fine irregular pores; 25 percent gravel; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

2Bkb-58 to 60 inches; pink (7.5YR 8/3) gravelly loam, pink (7.5YR 7/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few fine tubular pores; many large soft calcium carbonate masses; violently effervescent; 30 percent gravel; moderately alkaline (pH 8.4).

Range in Characteristics

Use of the "Topawa family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

A horizon:
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Rock fragments: 35 to 60 percent gravel and cobble

Bt horizon:
Chroma: 3 to 6, dry or moist
Texture: loam, clay loam, sandy clay loam, sandy loam
Rock fragments: 35 to 60 percent gravel and/or cobble

BC horizon (when present):
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 4 or 6, dry or moist
Texture: sandy loam, sandy clay loam

C horizon (when present):
Chroma: 4 to 6, dry or moist
Texture: sand, loamy sand, sandy loam

2Bkb or 2Btb horizon (when present):
Texture: sandy loam, loam, sandy clay loam
Calcium carbonate equivalent: 0 to 30 percent
Rock fragments: 15 to 50 percent gravel or cobble

Topock Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Slow
Landform: Hills and mountains
Parent material: Mixed igneous and metamorphic alluvium
Slope range: 5 to 35 percent
Elevation: 2,400 to 4,800 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Clayey, mixed, superactive, thermic, shallow Typic Haplargids

Typical Pedon

Typical pedon of Topock extremely gravelly sandy loam in an area of Cellar-Topock-Rock outcrop complex, 5 to 35 percent slopes; latitude of 34 degrees, 41 minutes, 05 seconds north and a longitude of 113 degrees, 43 minutes, 38 seconds west; 2,500 feet south and 2,000 feet east of the northwest corner of sec. 33, T. 16 N., R. 14 W.

A—0 to 2 inches; reddish brown (5YR 5/3) extremely gravelly sandy loam, dark reddish brown (5YR 3/3) moist; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many fine irregular pores; 70 percent gravel; noneffervescent; neutral (pH 7.2); abrupt wavy boundary.

Bt1—2 to 5 inches; reddish brown (5YR 4/4) gravelly sandy clay, reddish brown (5YR 4/3) moist; moderate medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine roots; few fine tubular pores; common distinct clay films on faces of peds; 25 percent gravel;

noneffervescent; neutral (pH 7.2); clear wavy boundary.

Bt2—5 to 12 inches; yellowish red (5YR 4/6) sandy clay, yellowish red (5YR 4/6) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine tubular pores; common distinct clay films on faces of peds; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt irregular boundary.

2Cr—12 to 23 inches; weathered granite; clear irregular boundary.

2R—23 inches; granite.

Range in Characteristics

Depth to weathered bedrock: 10 to 20 inches
Depth to unweathered bedrock: 20 to 40 inches

A horizon:
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

Bt horizons:
Hue: 5YR, 7.5YR
Value: 4 through 6 dry, 3 or 4 moist
Chroma: 3 through 6, dry or moist
Texture: clay, sandy clay
Clay content: 35 to 60 percent
Rock fragments: 5 to 35 percent gravel

Torriorthents

Depth class: Variable
Drainage class: Well drained
Permeability: Variable
Landform: Hills, fan terraces, and stream terraces
Slope range: 25 to 65 percent
Elevation: 450 to 3,800 feet
Mean annual precipitation: 3 to 12 inches
Mean annual air temperature: 57 to 74 degrees F
Frost free period: 200 to 325 days
Classification: Torriorthents

Typical Pedon

Typical pedon of Torriorthents in an area of Rositas family, Superstition and Torriorthents soils, 1 to 60 percent slopes; latitude of 34 degrees, 32 minutes, 29 seconds north and a longitude of 114 degrees, 22 minutes, 12 seconds west; 1,850 feet south and 350 feet west of the northeast corner of sec. 20, T. 14 N., R. 20 W.

A—0 to 1 inch; light yellowish brown (10YR 6/4) sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; common very fine roots; many very fine irregular pores; slightly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

C1—1 to 5 inches; light yellowish brown (10YR 6/4) silty clay, dark yellowish brown (10YR 4/4) moist; moderate thin platy structure; very hard, very firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; slightly effervescent; stratified; moderately alkaline (pH 8.2); abrupt smooth boundary.

C2—5 to 10 inches; light yellowish brown (10YR 6/4) silty clay, dark yellowish brown (10YR 4/4) moist; moderate medium angular blocky structure; very hard, very firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; slightly effervescent; stratified; moderately alkaline (pH 8.2); abrupt smooth boundary.

C3—10 to 18 inches; yellowish brown (10YR 5/4) silty clay, yellowish brown (10YR 5/4) moist; strong coarse angular blocky structure; very hard, very firm, very sticky and very plastic; few very fine roots; common very fine tubular pores; slightly effervescent; stratified; moderately alkaline (pH 8.2); abrupt smooth boundary.

C4—18 to 24 inches; light yellowish brown (10YR 6/4) silt loam, brown (10YR 5/3) moist; moderate coarse angular blocky structure; hard, slightly sticky and moderately plastic; common very fine tubular pores; slightly effervescent; stratified; moderately alkaline (pH 8.4); abrupt smooth boundary.

C5—24 to 37 inches; light yellowish brown (10YR 6/4) silt loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine tubular pores; slightly effervescent; stratified; moderately alkaline (pH 8.2); abrupt smooth boundary.

C6—37 to 60 inches; light yellowish brown (10YR 6/4) silt loam, brown (10YR 4/3) moist; slightly hard, friable, slightly sticky and slightly plastic; few very fine tubular pores; strongly effervescent; stratified; moderately alkaline (pH 8.2).

Range in Characteristics:

Soils in these landscape positions are highly variable with respect to depth, texture, color and/or chemical properties. Therefore physical and chemical properties of specific horizons are not given and interpretations such as erodibility are not determined.

Tres Hermanos Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow

Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope range: 2 to 15 percent
Elevation: 1,600 to 3,700 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Fine-loamy, mixed, superactive, thermic Typic Calciargids

Typical Pedon

Typical pedon of Tres Hermanos gravelly sandy loam in an area of Continental-Tres Hermanos complex, 2 to 15 percent slopes; latitude of 34 degrees, 34 minutes, 25 seconds north and a longitude of 113 degrees, 45 minutes, 41 seconds west; 630 feet south and 1,520 feet west of the northeast corner of sec. 07, T. 14 N., R. 14 W.

A—0 to 2 inches; yellowish brown (10YR 5/4) gravelly sandy loam, brown (10YR 4/3) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; common medium roots; common fine tubular pores; 20 percent gravel; slightly effervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Btk1—2 to 16 inches; light brown (7.5YR 6/4) gravelly sandy clay loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common medium roots; common fine tubular pores; few faint clay films on faces of peds; few fine soft calcium carbonate masses; 14 percent calcium carbonate equivalent; strongly effervescent; 25 percent gravel; slightly alkaline (pH 7.8); abrupt wavy boundary.

Btk2—16 to 26 inches; light brown (7.5YR 6/4.) gravelly sandy clay loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; common fine tubular pores; few faint clay films on faces of peds; common fine soft calcium carbonate masses and coatings on undersides of gravel; 22 percent calcium carbonate equivalent; strongly effervescent; 20 percent gravel; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk—26 to 60 inches; pink (7.5YR 8/4) gravelly sandy loam, pink (7.5YR 7/4) moist; massive; hard, firm, nonsticky and nonplastic; common very fine roots; few fine tubular pores; common fine soft calcium carbonate masses and coatings on underside of gravel; weakly cemented with calcium carbonate; 28 percent calcium carbonate equivalent; violently effervescent; 20 percent gravel; strongly alkaline (pH 8.6).

Range in Characteristics

Effervescence: slight to violent
Reaction: slightly to strongly alkaline

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist

Bt horizon:
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist

Bk horizon:
Value: 6 through 8 dry, 5 through 7 moist
Calcium carbonate equivalent: 15 to 30 percent
Rock fragments: 15 to 35 percent

Tumarion Series

Depth class: Very shallow and shallow to duripan
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landform: Mesas and plateaus
Parent material: Alluvium derived from volcanic rock
Slope: 2 to 35 percent
Elevation: 2,200 to 4,600 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 190 to 250 days
Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids

Typical Pedon

Typical pedon of Tumarion very cobbly loam in an area of Tumarion very cobbly loam, 2 to 15 percent slopes; latitude of 34 degrees, 30 minutes, 12 seconds north and a longitude of 114 degrees, 02 minutes, 39 seconds west; 300 feet north and 2,350 feet west of the southeast corner of sec. 33, T. 14 N., R. 17 W.

A—0 to 3 inches; light yellowish brown (10YR 6/4) very cobbly loam, dark yellowish brown (10YR 4/4) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; many fine irregular pores; 30 percent cobble and 25 percent gravel; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bk—3 to 10 inches; light brown (7.5YR 6/4) extremely gravelly loam, brown (7.5YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; many fine irregular pores; 75 percent gravel; many moderately thick

calcium carbonate coatings on undersides of gravel; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Bkqm—10 to 12 inches; indurated silica-calcium carbonate cemented duripan with laminar cap; abrupt wavy boundary.

3R—12 inches; basalt bedrock.

Range in Characteristics

Depth to hardpan: 5 to 18 inches
Depth to bedrock: 7 to 20 inches
Rock fragments: 35 to 80 percent gravel in the particle-size control section

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2, 3 or 4, dry or moist

B horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 2, 3 or 4, dry or moist
Texture: fine sandy loam, sandy loam, loam (15 to 25 percent clay)

Tyro Series

Depth class: Very shallow and shallow
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landform: Pediments
Parent material: Mixed igneous and metamorphic alluvium
Slope range: 2 to 35 percent
Elevation: 900 to 3,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids

Typical Pedon

Typical pedon of Tyro very stony loam in an area of Tyro very stony loam, 2 to 10 percent slopes; latitude of 34 degrees, 49 minutes, 36 seconds north and a longitude of 114 degrees, 25 minutes, 25 seconds west; 1,500 feet north and 600 feet west of the southeast corner of sec. 29, T. 17 N., R. 20 W.

A—0 to 1 inch; pale brown (10YR 6/3) very stony loam, brown (10YR 4/3) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; 10 percent gravel, 20 percent cobble, and 25 percent stone; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—1 to 6 inches; light brown (7.5YR 6/3) very gravelly sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 35 percent gravel and 5 percent cobble and stone; violently effervescent; calcium carbonate pendants on undersides of gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk—6 to 9 inches; pinkish white (7.5YR 8/2) very gravelly coarse sandy loam, light brown (7.5YR 6/4) moist; moderate fine subangular blocky structure; hard, firm, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 35 percent gravel and 5 percent cobble and stone; violently effervescent; many slightly hard and hard medium and large calcium carbonate concretions; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Bkqm—9 inches; indurated duripan with laminar cap and troweled surface.

Range in Characteristics:

Depth to duripan: 5 to 19 inches
Depth to bedrock: 7 to 19 inches
Calcium carbonate equivalent: 15 to 35 percent in the calcic horizon
Clay content: less than 18 percent in the control section
Rock fragments: 35 to 80 percent gravel, cobble, or pan fragments

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist
Texture: loam, sandy loam
Calcium carbonate equivalent: 5 to 15 percent

Bw horizon:
Hue: 7.5YR, 10YR
Value: 5 through 7 dry, 4 or 5 moist
Chroma: 3 or 4, dry or moist

Bk horizon:
Hue: 7.5YR, 10YR
Value: 6 through 8 dry, 4 or 5 moist
Chroma: 2 through 4, dry or moist
Rock fragments: 35 to 60 percent, predominantly gravel and gravel-size pan fragments
Texture: loam, sandy loam or coarse sandy loam

Calcium carbonate equivalent: 15 to 40 percent

Valena Series

Depth class: Shallow to bedrock (lithic)
Drainage class: Well drained
Permeability: Moderate
Landform: Plateaus
Parent material: Alluvium derived from igneous and metamorphic rock
Slope: 1 to 25 percent
Elevation: 5,000 to 5,200 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 150 days
Classification: Loamy, mixed, superactive, mesic Lithic Haplustalfs

Typical Pedon

Typical pedon of Valena sandy loam in an area of Valena-Rock outcrop-Carri family complex, 1 to 25 percent slopes; latitude of 35 degrees, 23 minutes, 28 seconds north and a longitude of 113 degrees, 37 minutes, 10 seconds west; 1,700 feet north and 2,000 feet west of the southeast corner of sec. 12, T. 23 N., R. 13 W.

A—0 to 2 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine tubular pores; 5 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bw—2 to 7 inches; dark yellowish brown (10YR 4/4) sandy loam, dark yellowish brown (10YR 3/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; 5 percent gravel; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

2Bt—7 to 12 inches; yellowish red (5YR 4/6) sandy clay loam, reddish brown (5YR 4/4) moist; strong fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine roots; many very fine tubular pores; common faint clay films on faces of peds and lining pores; 5 percent gravel; noneffervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2R—12 inches; granite bedrock.

Range in Characteristics

Rock fragments: less than 25 percent
Reaction: slightly or moderately alkaline
Effervescence: noneffervescent or slightly effervescent

A horizon:
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

2Bt horizon:
Hue: 7.5YR, 5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 4 or 6, dry or moist
Texture: loam, sandy loam, sandy clay loam
Clay content: 18 to 35 percent clay

Vekol family

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 7 percent
Elevation: 2,000 to 3,200 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250 days
Classification: Fine, mixed, superactive, thermic Typic Haplargids

Typical Pedon

Typical pedon of Vekol family gravelly loamy sand in an area of Vekol family gravelly loamy sand, 2 to 7 percent slopes; latitude of 34 degrees, 55 minutes, 02 seconds north and a longitude of 113 degrees, 38 minutes, 19 seconds west; 1,100 feet south and 1,200 feet west of the northeast corner of sec. 27, T. 18 N., R. 13 W.

A—0 to 4 inches; strong brown (7.5YR 5/6) gravelly loamy sand, brown (7.5YR 4/4) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many fine roots; many fine irregular pores; 25 percent gravel; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

BA—4 to 10 inches; brown (7.5YR 5/4) gravelly sandy loam, brown (7.5YR 4/4) moist; moderate fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many fine roots; many very fine irregular and few fine tubular pores; 15 percent gravel, 5 percent cobble; noneffervescent; slightly alkaline (pH 7.4); clear wavy boundary.

2Bt1—10 to 26 inches; brown (7.5YR 5/4) gravelly sandy clay, reddish brown (5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many very fine roots; common fine tubular pores; common distinct

clay films on faces of peds; 25 percent gravel; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

2Bt2—26 to 40 inches; reddish brown (5YR 5/4) gravelly sandy clay loam, reddish brown (5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine roots; few fine tubular pores; few faint clay films lining pores; 20 percent gravel; noneffervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.

3Bk—40 to 60 inches; strong brown (7.5YR 5/6) very gravelly sand, strong brown (7.5YR 4/6) moist; single grain; loose, nonsticky and nonplastic; few fine roots; few fine tubular pores; few large soft calcium carbonate masses; violently effervescent; 40 percent gravel; moderately alkaline (pH 8.4).

Range in Characteristics

Use of the "Vekol family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.
Depth to calcium carbonate: 35 to 40 inches

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 4 or 6 dry, 3 or 4 moist

BA horizon:
Not present in all pedons.

2Bt horizons:
Hue: 5YR, 7.5YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 4 or 6, dry or moist
Texture: sandy clay, sandy clay loam
Rock fragments: less than 30 percent gravel

3Bk horizon:
Not present in all pedons.
Calcium carbonate equivalent: 2 to 10 percent

Vinton Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Flooding: Occasional
Landform: Flood plains
Parent material: Alluvium derived from mixed rock sources
Slope range: 1 to 3 percent
Elevation: 2,000 to 3,800 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 200 to 250
Classification: Sandy, mixed, thermic Typic Torrifluvents

Typical Pedon

Typical pedon of Vinton coarse sandy loam in an area of Dudleyville-Vinton-Riverwash complex, 1 to 3 percent slopes; latitude of 34 degrees, 31 minutes, 55 seconds north and a longitude of 113 degrees, 27 minutes, 08 seconds west; 0 feet south and 2,100 feet east of the northwest corner of sec. 30, T. 14 N., R. 11 W.

A—0 to 3 inches; brown (10YR 5/3) coarse sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; slightly effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bw—3 to 24 inches; brown (10YR 5/3) loamy coarse sand, dark brown (10YR 4/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; slightly effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

C1—24 to 30 inches; brown (10YR 5/3) gravelly loamy coarse sand, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine tubular pores; 30 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2C2—30 to 38 inches; brown (10YR 5/3) loamy coarse sand, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine irregular pores; 10 percent gravel; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

3C3—38 to 60 inches; brown (10YR 5/3) very gravelly loamy coarse sand, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine irregular pores; 40 percent gravel, 5 percent cobble; slightly effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

Effervescence: slight to violent

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4 moist

C horizons:
Hue: 7 YR, 10YR
Value: 6 or 7 dry, 3 through 6 moist
Chroma: 3 or 4 moist
Rock fragments: averages 5 to 35 percent gravel; one or more horizons within the control section may have more than 35 percent gravel
Texture: loamy coarse sand, loamy sand, sand, coarse sand

Wagonbow Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landform: Hills and mountains
Parent material: Alluvium and colluvium from volcanics
Slope range: 15 to 25 percent
Elevation: 3,800 to 5,200 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Fine, smectitic, thermic Ustertic Haplocambids

Typical Pedon

Typical pedon of Wagonbow very stony clay loam in an area of Courthouse family-Rock outcrop-Wagonbow complex, 15 to 70 percent slopes; latitude of 34 degrees, 43 minutes, 22 seconds north and a longitude of 113 degrees, 23 minutes, 16 seconds west; 4,400 feet south and 200 feet east of the northwest corner of sec. 14, T. 16 N., R. 11 W.

A1—0 to 3 inches; brown (10YR 4/3) very stony clay loam, dark grayish brown (10YR 4/2) moist; moderate fine granular structure; hard, firm, moderately sticky and moderately plastic; many very fine roots; many very fine irregular pores; 20 percent stone, 20 percent cobble, and 20 percent gravel; few shrinkage cracks; noneffervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

A2—3 to 6 inches; brown (10YR 4/3) cobbly clay loam, brown (10YR 4/3) moist; moderate very fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many very fine roots; common very fine tubular pores; 20 percent cobble; few shrinkage cracks; noneffervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bw1—6 to 26 inches; brown (10YR 4/3) silty clay, brown (10YR 4/3) moist; moderate medium prismatic structure parting to strong medium subangular blocky; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine tubular pores; 10 percent cobble; common pressure faces; few slickensides; few shrinkage cracks; slightly effervescent; slightly alkaline (pH 7.8); gradual wavy boundary.

Bw2—26 to 50 inches; brown (7.5YR 5/4) silty clay, brown (7.5YR 4/4) moist; moderate medium prismatic structure parting to strong medium subangular blocky; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine tubular pores; 5 percent gravel; common pressure faces; few slickensides; slightly effervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.

C—50 to 60 inches; yellowish brown (10YR 5/4) very gravelly clay loam, dark yellowish brown (10YR 4/4) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; 40 percent gravel; slightly effervescent; moderately alkaline (pH 8.0).

Range in Characteristics

Linear extensibility: 6.0 centimeters or more from the surface to 40 inches

A horizon:
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 2 or 3, dry or moist
Texture: clay loam, silty clay loam
Rock fragments: 35 to 65 percent stone, cobble, and gravel

Bw horizons:
Hue: 7.5YR, 10YR
Value: 4 or 5 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist
Texture: silty clay, clay
Rock fragments: 5 to 25 percent gravel, cobble and/or stone
Calcium carbonate equivalent: 5 to 10 percent

C horizon:
Hue: 7.5, 10YR
Value: 4 or 5, dry or moist
Chroma: 3 or 4, dry or moist
Texture: clay loam, silty clay loam, clay
Coarse fragments: 5 to 45 percent gravel, cobble and/or stone
Calcium carbonate equivalent: 5 to 10 percent

White House Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources

Slope: 2 to 15 percent
Elevation: 3,800 to 4,800 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 180 to 210 days
Classification: Fine, mixed, superactive, thermic Ustic Haplargids

Typical Pedon

Typical pedon of White House gravelly loamy sand in an area of White House gravelly loamy sand, 2 to 15 percent slopes; latitude of 35 degrees, 08 minutes, 16 seconds north and a longitude of 113 degrees, 44 minutes, 35 seconds west; 100 feet south and 750 feet west of the northeast corner of sec. 10, T. 20 N., R. 14 W.

A—0 to 1 inch; brown (7.5YR 5/4) gravelly loamy sand, dark brown (7.5YR 3/4) moist; weak fine granular structure; loose, nonsticky and nonplastic; many fine roots; many fine irregular pores; noneffervescent; 30 percent gravel, 2 percent cobble; neutral (pH 7.0); abrupt wavy boundary.

BA—1 to 5 inches; reddish brown (5YR 5/4) sandy clay loam, reddish brown (5YR 4/4) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many fine roots; many fine tubular pores; noneffervescent; 5 percent gravel, 5 percent cobble; neutral (pH 7.0); clear wavy boundary.

2Bt1—5 to 23 inches; yellowish red (5YR 5/6) sandy clay, yellowish red (5YR 4/6) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; common fine roots; common very fine tubular pores; many distinct clay films on faces of peds; noneffervescent; 10 percent gravel, 2 percent cobble; neutral (pH 7.2); abrupt wavy boundary.

2Bt2—23 to 42 inches; strong brown (7.5YR 5/6) gravelly sandy clay loam, strong brown (7.5YR 4/6) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; common distinct clay films on faces of peds; slightly effervescent; 25 percent gravel; slightly alkaline (pH 7.4); gradual wavy boundary.

2BC—42 to 60 inches; strong brown (7.5YR 5/6) gravelly loamy sand, brown (7.5YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; few fine irregular pores; slightly effervescent; 30 percent gravel; slightly alkaline (pH 7.6).

Range in Characteristics

Calcium carbonate equivalent: less than 10 percent
Reaction: neutral or slightly alkaline

A horizon:
Rock fragments: 15 to 35 percent cobble and gravel

Bt horizons:
Texture: sandy clay loam, sandy clay (averaging greater than 35 percent clay)
Rock fragments: 15 to 35 percent

BC horizon:
Rock fragments: 15 to 35 percent

White House family

Depth class: Very deep
Drainage class: Well drained
Permeability: Very slow
Landform: Fan terraces
Parent material: Alluvium derived from mixed rock sources
Slope: 2 to 15 percent
Elevation: 3,400 to 4,000 feet
Mean annual precipitation: 9 to 12 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 200 to 230 days
Classification: Fine, mixed, superactive, thermic Ustic Haplargids

Typical Pedon

Typical pedon of White House family very gravelly loamy sand in an area of White House family very gravelly loamy sand, 2 to 15 percent slopes; latitude of 35 degrees, 09 minutes, 15 seconds north and a longitude of 113 degrees, 44 minutes, 37 seconds west; 67 feet north and 850 feet east of the southwest corner of sec. 35, T. 21 N., R. 14 W.

A1—0 to 1 inch; brown (10YR 4/3) very gravelly loamy sand, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; 40 percent gravel; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

A2—1 to 2 inches; brown (10YR 4/3) very gravelly sandy clay loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, very friable, slightly sticky and nonplastic; few very fine roots; common very fine irregular pores; 40 percent gravel; noneffervescent; neutral (pH 7.2); abrupt smooth boundary.

Bt1—2 to 15 inches; yellowish brown (10YR 5/4) very gravelly sandy clay loam, brown (7.5YR 4/4) moist; strong very fine subangular blocky structure; hard, firm, 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; 40 percent gravel; noneffervescent; slightly alkaline (pH 7.4); clear wavy boundary.

Bt2—15 to 21 inches; yellowish brown (10YR 5/4) gravelly clay, brown (7.5YR 4/4) moist; strong very fine subangular blocky structure; very hard, very firm, very sticky and very plastic; few very fine roots; common very fine tubular pores; common thin clay films on faces of peds and lining pores; 30 percent gravel; noneffervescent; slightly alkaline (pH 7.4); clear wavy boundary.

Bt3—21 to 32 inches; yellowish brown (10YR 5/4) clay, brown (7.5YR 4/4) moist; strong fine subangular blocky structure; very hard, very firm, very sticky and very plastic; few very fine roots; common very fine tubular pores; many thin clay films on faces of peds and lining pores; 10 percent gravel; noneffervescent; slightly alkaline (pH 7.4); clear wavy boundary.

BC—32 to 43 inches; yellowish brown (10YR 5/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; hard, very firm, slightly sticky and nonplastic; few very fine roots; common very fine tubular pores; few 1/2-inch-wide cylindrical areas with thin clay films on faces of peds and lining pores; 15 percent gravel; noneffervescent; slightly alkaline (pH 7.6); clear wavy boundary.

C—43 to 60 inches; yellowish brown (10YR 5/4) gravelly loamy sand, brown (10YR 4/3) moist; massive; slightly hard, very firm, nonsticky and nonplastic; few very fine roots; few fine tubular pores; 15 percent gravel; noneffervescent with few areas that are slightly effervescent; slightly alkaline (pH 7.6).

Range in Characteristics

Use of the "White House family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Clay content: averages more than 35 percent clay in the particle-size control section
Reaction: neutral to slightly alkaline

A horizons:
Rock fragments: 15 to 60 percent, predominantly gravel

Bt horizons:
Rock fragments: 15 to 35 percent, predominantly gravel
Texture: sandy clay loam, clay

Whitehills Series

Depth class: Moderately deep to duripan
Drainage class: Well drained
Permeability: Moderately slow
Landform: Fan terraces
Parent material: Alluvium derived from mixed volcanic rock
Slope: 1 to 15 percent
Elevation: 1,800 to 3,800 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 62 to 68 degrees F
Frost-free period: 190 to 250 days
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Argidurids

Typical Pedon

Typical pedon of Whitehills very gravelly loam in an area of Whitehills very gravelly loam, 1 to 5 percent slopes; latitude of 35 degrees, 07 minutes, 25 seconds north and a longitude of 114 degrees, 17 minutes, 39 seconds west; 1,200 feet east and 1,400 feet south of the northwest corner of sec. 15, T. 20 N., R. 19 W.

A—0 to 2 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 3/4) moist; weak medium platy structure; slightly hard, friable, nonsticky and nonplastic; many very fine roots; many very fine vesicular pores; 40 percent gravel and 5 percent cobble; slightly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Btk1—2 to 7 inches; strong brown (7.5YR 5/6) very gravelly loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; common faint clay films on faces of peds; 35 percent gravel and 5 percent cobble; few fine soft calcium carbonate accumulations; slightly effervescent; 10 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary.

Btk2—7 to 19 inches; strong brown (7.5YR 5/6) very gravelly clay loam, strong brown (7.5YR 4/6) moist; strong medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; strong distinct clay films on faces of peds; 40 percent gravel and 5 percent cobble; common fine soft calcium carbonate accumulations; strongly effervescent; 14 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk—19 to 27 inches; pink (7.5YR 8/4) very gravelly loam, pink (7.5YR 7/4) moist; massive; hard, firm, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 45 percent gravel and 10 percent cobble with calcium carbonate coating undersides; many coarse soft calcium carbonate accumulations; violently effervescent; 24 percent calcium carbonate

equivalent; moderately alkaline (pH 8.4); abrupt wavy boundary.

2Bkqm—27 inches; indurated silica-calcium carbonate cemented duripan.

Range in Characteristics

Rock fragments: 35 to 70 percent
Organic matter: less than 1 percent in the surface
Depth to duripan: 20 to 40 inches

A horizon:
Hue: 7.5YR, 10YR
Value: 5 or 6 dry, 3 or 4 moist
Chroma: 3 or 4, dry or moist

B horizon:
Hue: 5YR, 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3, 4 or 6, dry or moist
Texture: loam, sandy clay loam, clay loam

Bk horizon:
Hue: 7.5YR, 10YR
Value: 6, 7 or 8 dry, 4 through 7 moist
Chroma: 3 or 4, dry or moist
Texture: sandy loam, loam

Wikieup Series

Depth class: Very shallow and shallow to bedrock
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landform: Pediments, hills and mountains
Parent material: Alluvium derived from mixed rock sources
Slope: 3 to 60 percent
Elevation: 2,150 to 5,400 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 180 to 250 days
Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Typic Torriorthents

Typical Pedon

Typical pedon of Wikieup extremely cobbly coarse sandy loam in an area of Mutang-Wikieup-Rock outcrop complex, 3 to 30 percent slopes; latitude of 35 degrees, 02 minutes, 03 seconds north and a longitude of 114 degrees, 04 minutes, 17 seconds west; 900 feet south and 600 feet east of the northwest corner of sec. 15, T. 19 N., R. 17 W.

A—0 to 1 inch; yellowish brown (10YR 5/4) extremely cobbly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine granular structure; loose, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 45 percent gravel and 25 percent cobble; noneffervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C—1 to 5 inches; yellowish brown (10YR 5/4) very gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; massive; loose, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 35 percent gravel; noneffervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Cr—5 to 8 inches; weathered granite.

2R—8 inches; granite.

Range in Characteristics

Depth to paralithic contact: 4 to 20 inches
Depth to unweathered bedrock: 6 to 20 inches
Reaction: neutral to moderately alkaline

A horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 3 to 5 moist
Chroma: 3 or 4, dry or moist
Rock fragments: 35 to 70 percent gravel and cobble

C horizon:
Hue: 10YR, 7.5YR
Value: 5 or 6 dry, 3 to 5 moist
Chroma: 2 to 4, dry or moist
Texture: loam, sandy loam, coarse sandy loam
Rock fragments: 35 to 60 percent, dominantly gravel

Yahana family

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landform: Flood plains (protected)
Parent material: Alluvium derived from mixed rock sources
Slope: 1 to 3 percent
Elevation: 500 to 700 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 70 to 74 degrees F
Frost-free period: 250 to 325 days
Classification: Fine-silty, mixed, superactive, hyperthermic Typic Haplosalids

Typical Pedon

Typical pedon of Yahana family silty clay loam in an area of Yahana family silty clay loam, 1 to 3 percent slopes; latitude of 34 degrees, 58 minutes, 07 seconds north and a longitude of 114 degrees, 35 minutes, 21 seconds west; 200 feet north and 2,650 feet east of the southwest corner of sec. 02, T. 18 N., R. 22 W.

Anz—0 to 4 inches; brown (7.5YR 5/2) silty clay loam, brown (7.5YR 4/2) moist; moderate thick platy structure; hard, firm, moderately sticky and moderately plastic; few fine roots; common fine tubular pores; thin salt crust and few fine salt crystals; strongly effervescent; very strongly alkaline (pH 9.2); abrupt wavy boundary.

Bnz1—4 to 8 inches; brown (7.5YR 5/2) stratified silty clay, brown (7.5YR 4/2) moist; weak fine subangular blocky structure; very hard, very firm, very sticky and very plastic; few fine roots; few fine interstitial pores; many fine salt crystals; many fine iron stains; violently effervescent; very strongly alkaline (pH 9.4); abrupt wavy boundary.

Bnz2—8 to 29 inches; light brown (7.5YR 6/3) silt loam, brown (7.5YR 5/3) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and moderately plastic; few fine roots; few fine interstitial pores; few fine salt crystals; many fine iron stains; violently effervescent; very strongly alkaline (pH 9.2); abrupt wavy boundary.

Bnz3—29 to 41 inches; light brown (7.5YR 6/4) stratified silty clay, brown (7.5YR 5/4) moist; massive; very hard, very firm, very sticky and very plastic; few very fine roots; few fine interstitial pores; common fine salt crystals; many fine iron stains; violently effervescent; very strongly alkaline (pH 9.4); abrupt smooth boundary.

Bnz4—41 to 56 inches; light brown (7.5YR 6/4) silty clay loam, brown (7.5YR 5/4) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots few fine interstitial pores; common fine salt crystals; many fine iron stains; strongly effervescent; very strongly alkaline (pH 9.2); abrupt wavy boundary.

C—56 to 60 inches; pink (7.5YR 7/4) fine sand, light brown (7.5YR 6/4) moist; massive; loose, nonsticky and nonplastic; common medium interstitial pores; slightly effervescent; moderately alkaline (pH 8.2).

Range in Characteristics

Use of the "Yahana family" reference term is a convention to reduce name length and implies no specific use of a soil series, reduced mapping intensity, or range of properties beyond that which is described in the map unit description and database. Use, management, and interpretations are not affected.

Depth to a salic horizon: 0 to 10 inches
Salinity (ECe): up to 80 dS/m
Sodicity (SAR): up to 400
Clay content: averages 18 to 35 percent clay with less than 15 percent fine sand or coarser sand

Bnz horizons:
Texture: stratified silt loam, silty clay, silty clay loam, very fine sandy loam

C horizon:
Texture: fine sand, sand

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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.

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 fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

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.

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of

the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement. On a desert surface, a layer of gravel or larger fragments that was emplaced by upward movement of the underlying sediments or that remains after finer particles have been removed by running water or the wind.

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.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Eolian soil material. Earthy parent material

accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the oven dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, or clay.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

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.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter

represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:
O horizon.—An organic layer of fresh and decaying plant residue.
A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.
E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.
B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.
C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.
Cr horizon.—Soft, consolidated bedrock beneath the soil.
R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

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.

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.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Land capability classification. A system of grouping soils primarily on the basis of their capability to produce common cultivated crops and pasture plants without deteriorating over a long period of time. Separate classifications are given for irrigated and nonirrigated soils. In Arizona, irrigated land capability classifications are applied only to cultivated soils. (Natural Resources Conservation Service, Arizona, 2001).

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and

oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mesa. A broad, nearly flat topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 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.

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low ..... less than 0.5 percent
Low ..... 0.5 to 1.0 percent
Moderately low ..... 1.0 to 2.0 percent
Moderate ..... 2.0 to 4.0 percent
High ..... 4.0 to 8.0 percent
Very high ..... more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, clay pan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable ..... less than 0.0015 inch
Very slow ..... 0.0015 to 0.06 inch
Slow ..... 0.06 to 0.2 inch
Moderately slow ..... 0.2 to 0.6 inch
Moderate ..... 0.6 inch to 2.0 inches
Moderately rapid ..... 2.0 to 6.0 inches
Rapid ..... 6.0 to 20 inches
Very rapid ..... more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

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.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction

because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

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.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

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.

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.

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.

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:

Slight	less than 13:1
Moderate	13-30:1
Strong	more than 30:1

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

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.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons,

considered collectively. It includes all subdivisions of these horizons.

Talus. Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an oven dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Tables

Table 1.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1	Akela-Rock outcrop-Rubble land complex, 40 to 70 percent slopes	31,817	1.3
2	Akela-Rock outcrop-Rubble land complex, dry, 40 to 70 percent slopes	22,053	0.9
3	Alko family cobbly loam, 2 to 15 percent slopes	1,204	*
4	Alko family cobbly loam, dry, 2 to 15 percent slopes	10,501	0.4
5	Amole sandy loam, 1 to 3 percent slopes	2,719	0.1
6	Amole sandy loam, dry, 1 to 3 percent slopes	11,545	0.5
7	Anthony-Dudleyville complex, 1 to 3 percent slopes	4,675	0.2
8	Aquarius-Akela-Rock outcrop complex, 1 to 25 percent slopes	3,836	0.2
9	Arizo-Franconia-Riverwash complex, 1 to 3 percent slopes	9,682	0.4
10	Arizo-Franconia-Riverwash complex, dry, 1 to 3 percent slopes	17,648	0.7
11	Bartmus very cobbly loam, 2 to 15 percent slopes	955	*
12	Bonita family very cobbly silty clay loam, 2 to 10 percent slopes	16,343	0.7
13	Bonita family-Gonzales complex, 10 to 35 percent slopes	5,048	0.2
14	Brazito family sand, 0 to 3 percent slopes	2,555	0.1
15	Bucklebar sandy loam, 1 to 3 percent slopes	2,256	*
16	Cacique family extremely gravelly loam, 1 to 7 percent slopes	21,384	0.9
17	Castaneda extremely gravelly loam, 1 to 7 percent slopes	13,030	0.5
18	Castaneda extremely gravelly loam, dry, 1 to 7 percent slopes	58,152	2.3
19	Carrizo family very gravelly loamy sand, 1 to 3 percent slopes	35,606	1.4
20	Carrizo family-Riverwash complex, 1 to 3 percent slopes	5,063	0.2
21	Carrizo-Riverwash complex, 3 to 8 percent slopes	14,756	0.6
22	Carrizo-Riverwash complex, 1 to 3 percent slopes	5,919	0.2
23	Cave gravelly sandy loam, 10 to 35 percent slopes	3,597	0.1
24	Cave gravelly sandy loam, dry, 10 to 35 percent slopes	17,541	0.7
25	Cellar-Rock outcrop complex, 20 to 60 percent slopes	158,231	6.3
26	Cellar-Rock outcrop complex, dry, 20 to 60 percent slopes	42,424	1.7
27	Cellar-Topock-Rock outcrop complex, 5 to 35 percent slopes	34,202	1.4
28	Cherioni very cobbly loam, 2 to 15 percent slopes	9,089	0.4
29	Chuckawalla-Riverbend complex, 2 to 15 percent slopes	33,507	1.3
30	Chuckawalla-Riverbend families complex, 2 to 15 percent slopes	27,706	1.1
31	Cipriano very stony loam, 2 to 10 percent slopes	2,094	*
32	Cline very stony loam, 2 to 15 percent slopes	10,446	0.4
33	Cline very stony loam, dry, 2 to 15 percent slopes	6,572	0.3
34	Continental-Tres Hermanos complex, 2 to 15 percent slopes	12,778	0.5
35	Continental-Tres Hermanos complex, dry, 2 to 15 percent slopes	6,807	0.3
36	Continental-Rillino complex, 2 to 15 percent slopes	11,094	0.4
37	Continental-Rillino complex, dry, 2 to 15 percent slopes	4,520	0.2
38	Coolidge-Denure complex, 1 to 7 percent slopes	17,023	0.7
39	Coolidge-Denure families complex, 1 to 7 percent slopes	12,780	0.5
40	Courthouse family-Rock outcrop-Rubble land complex, 40 to 70 percent slopes	1,455	*
41	Courthouse family-Rock outcrop-Wagonbow complex, 15 to 70 percent slopes	11,034	0.4

Table 1.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
42	Far-Rock outcrop complex, 10 to 45 percent slopes	9,847	0.4
43	Dutchflat sandy loam, 0 to 2 percent slopes	21,640	0.9
44	Dutchflat fine sandy loam, dry, 1 to 3 percent slopes	8,209	0.3
45	Gadsden silty clay, 0 to 1 percent slopes	1,818	*
46	Gila-Glendale complex, 1 to 3 percent slopes	1,567	*
47	Gila-Glendale complex, dry, 1 to 3 percent slopes	4,311	0.2
48	Goldroad-Rock outcrop complex, 20 to 60 percent slopes	6,558	0.3
49	Gonzales-Rock outcrop complex, 15 to 35 percent slopes	41,414	1.7
50	Goodsprings family gravelly sandy loam, 1 to 15 percent slopes	14,065	0.6
51	Goodsprings family gravelly sandy loam, dry, 1 to 15 percent slopes	23,885	1.0
52	Goodsprings family gravelly sandy loam, 10 to 35 percent slopes	7,152	0.3
53	Goodsprings family gravelly sandy loam, dry, 10 to 35 percent slopes	158	*
54	Graham-Arivaca complex, 2 to 15 percent slopes	9,934	0.4
55	Graham-Rock outcrop complex, 10 to 40 percent slopes	17,423	0.7
56	Gunsight very gravelly loam, 2 to 15 percent slopes	89,321	3.6
57	Gunsight very gravelly sandy loam, 10 to 40 percent slopes	49,679	2.0
58	Hassell family-Lampshire-Rock outcrop complex, 10 to 30 percent slopes	15,176	0.6
59	Holtville silty clay, 0 to 1 percent slopes	6,206	0.2
60	Huevi very gravelly loam, 2 to 15 percent slopes	33,850	1.4
61	Huevi very gravelly loam, 10 to 40 percent slopes	15,580	0.6
62	Akela-Rock outcrop complex, 20 to 60 percent slopes	5,133	0.2
63	Hyder-Rock outcrop-Rubble land complex, 40 to 70 percent slopes	12,880	0.5
64	Indio silt loam, 0 to 1 percent slopes	6,969	0.3
65	Ireteba family-Arizo complex, 1 to 3 percent slopes	3,953	0.2
66	Kinley gravelly loamy sand, 15 to 35 percent slopes	2,969	0.1
67	Kinley-Poachie complex, 2 to 15 percent slopes	20,531	0.8
68	Kofa silty clay, 0 to 1 percent slopes	2,162	*
69	Dudleyville-Vinton-Riverwash complex, 1 to 3 percent slopes	5,686	0.2
70	Dudleyville-Vinton-Riverwash complex, dry, 1 to 3 percent slopes	10,640	0.4
71	Lagunita sand, 0 to 1 percent slopes	18,168	0.7
72	Lagunita-Ripley complex, 0 to 3 percent slopes	1,678	*
73	Lampshire-Rock outcrop complex, 20 to 60 percent slopes	3,830	0.2
74	Lampshire-Rock outcrop complex, 30 to 70 percent slopes	94,367	3.8
75	Lampshire-Rock outcrop complex, 15 to 60 percent slopes, stony	7,214	0.3
76	Lostman sandy loam, moist, 1 to 5 percent slopes	6,031	0.2
77	Lostman sandy loam, dry, 1 to 3 percent slopes	4,172	0.2
78	Lostman-Kinley complex, 1 to 7 percent slopes	61,392	2.5
79	Marshes	2,911	0.1
80	Meloland very fine sandy loam, 0 to 1 percent slopes	1,863	*
81	Mohon-Kinley complex, 2 to 15 percent slopes	11,511	0.5
82	Mohon-Poachie complex, 2 to 15 percent slopes	25,557	1.0
83	Mohon-Poachie complex, dry, 2 to 15 percent slopes	20,904	0.8

Table 1.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
84	Nickel-Topawa-Eba families complex, 10 to 50 percent slopes	32,678	1.3
85	Orwash family sandy loam, 1 to 3 percent slopes	7,942	0.3
86	Orwash family sandy loam, dry, 1 to 3 percent slopes	46,943	1.9
87	Penthouse-Gonzales complex, 5 to 35 percent slopes	30,867	1.2
88	Poachie very gravelly loam, 1 to 4 percent slopes	2,513	0.1
89	Poachie very gravelly loam, dry, 1 to 4 percent slopes	13,657	0.5
90	Quilotosa-Rock outcrop complex, 20 to 60 percent slopes	190,105	7.6
91	Razorback extremely gravelly sandy loam, 15 to 35 percent slopes	1,264	*
92	Razorback-Rock outcrop complex, 1 to 25 percent slopes	1,881	*
93	Razorback-Rock outcrop complex, 15 to 70 percent slopes	36,986	1.5
94	Razorback-Rock outcrop complex, dry, 15 to 70 percent slopes	4,599	0.2
95	Razorback-Rock outcrop-Rubble land complex, 40 to 70 percent slopes	11,979	0.5
96	Razorback-Rock outcrop-Rubble land complex, dry, 40 to 70 percent slopes	22,143	0.9
97	Rillino gravelly loamy sand, 15 to 35 percent slopes	1,887	*
98	Rillino-Tres Hermanos complex, 2 to 15 percent slopes	11,645	0.5
99	Ripley silt loam, 0 to 1 percent slopes	6,342	0.3
100	Riverbend family very cobbly sandy loam, 2 to 15 percent slopes	2,828	0.1
101	Riverbend very cobbly sandy loam, 2 to 15 percent slopes	14,741	0.6
102	Riverwash-Fluvaquents association, 0 to 3 percent slopes	224	*
103	Rock outcrop-Hyder complex, 35 to 65 percent slopes	57,466	2.3
104	Rock outcrop-Razorback complex, 20 to 70 percent slopes	13,985	0.6
105	Rock outcrop-Sunrock complex, 35 to 65 percent slopes	26,635	1.1
106	Romero-Chiricahua-Rock outcrop complex, 5 to 35 percent slopes	55,524	2.2
107	Romero-Lampshire-Rock outcrop complex, 35 to 70 percent slopes	83,379	3.3
108	Rositas family, Superstition and Torriorthents soils, 1 to 60 percent slopes	4,534	0.2
109	Rositas, Superstition family and Torriorthents soils, 1 to 60 percent slopes	23,432	0.9
110	Stagecoach very gravelly loam, 2 to 15 percent slopes	2,582	0.1
111	Stagecoach very gravelly loam, 10 to 40 percent slopes	4,324	0.2
112	Stagecoach very gravelly sandy loam, 5 to 35 percent slopes	19,467	0.8
113	Stagecoach very gravelly sandy loam, dry, 5 to 35 percent slopes	8,731	0.4
114	Stagecoach-Topawa family-Eba complex, 10 to 50 percent slopes	45,919	1.8
115	Stagecoach-Topawa family-Eba complex, dry, 10 to 50 percent slopes	2,657	0.1
116	Sunrock extremely gravelly sandy loam, 15 to 35 percent slopes	19,277	0.8
117	Sunrock-Rock outcrop complex, 30 to 65 percent slopes	991	*
118	Tombstone-Caralampi-Eloma complex, 10 to 50 percent slopes	15,610	0.6
119	Torriorthents, 35 to 65 percent slopes	4,493	0.2
120	Torriorthents, dry, 35 to 65 percent slopes	4,574	0.2
121	Tumarion very cobbly loam, 2 to 15 percent slopes	12,884	0.5

Table 1.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
122	Tumarion very cobbly loam, dry, 2 to 15 percent slopes	10,249	0.4
123	Tyro extremely stony sandy loam, 3 to 35 percent slopes	15,504	0.6
124	Tyro very stony loam, 2 to 10 percent slopes	24,046	1.0
125	Vekol family gravelly loamy sand, 2 to 7 percent slopes	21,446	0.9
126	Vekol family gravelly loamy sand, dry, 2 to 7 percent slopes	5,146	0.2
127	Water	22,053	0.9
128	Whitehills very gravelly loam, 1 to 5 percent slopes	3,641	0.1
129	Whitehills very gravelly loam, dry, 2 to 15 percent slopes	7,508	0.3
130	White House family very gravelly loamy sand, 2 to 15 percent slopes	5,657	0.2
131	White House gravelly loamy sand, 2 to 15 percent slopes	5,987	0.2
132	Wikieup-Mutang-Rock outcrop complex, 5 to 35 percent slopes	7,957	0.3
133	Mutang-Wikieup-Rock outcrop complex, 3 to 30 percent slopes	83,583	3.4
134	Wikieup-Rock outcrop complex, dry, 20 to 60 percent slopes	2,597	0.1
135	Yahana family silty clay loam, 1 to 3 percent slopes	498	*
136	Tumarion-Nickel family complex, 8 to 35 percent slopes	61	*
137	Valena-Rock outcrop-Carri family complex, 1 to 25 percent slopes	8	*
138	Nodman-Rock outcrop complex, 15 to 65 percent slopes	507	*
139	Nodman-Romero family complex, 15 to 65 percent slopes	203	*
	Total	2,492,300	100.0

* Less than 0.1 percent.

Table 2.--Prime and Other Important Farmland

(Only the soils considered prime or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland. If a soil is prime or important farmland only under certain conditions, the conditions are specified in parentheses after the soil name.)

Map symbol	Map unit name	Farmland Classification
45	Gadsden silty clay, 0 to 1 percent slopes	Prime farmland if irrigated
59	Holtville silty clay, 0 to 1 percent slopes	Prime farmland if irrigated
64	Indio silt loam, 0 to 1 percent slopes	Prime farmland if irrigated
68	Kofa silty clay, 0 to 1 percent slopes	Prime farmland if irrigated
80	Meloland very fine sandy loam, 0 to 1 percent slopes	Prime farmland if irrigated
99	Ripley silt loam, 0 to 1 percent slopes	Prime farmland if irrigated

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities

(This soil survey does not contain sufficient information for planning and management of rangeland or forestland grazing. A detailed ecological site inventory is necessary for all management decisions.)

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
1:						
Akela---------	Basalt Hills 10-13" p.z.	Favorable	500	big galleta		10
		Normal	300	bush muhly		15
		Unfavorable	100	creosotebush		10
				desert globemallow		5
				desert needlegrass		5
				littleleaf palo verde		20
				range ratany		5
				sideoats grama		5
				slim tridens		5
				white brittlebush		10
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Rubble land---	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
2:						
Akela---------	Basalt Hills 7-10" p.z.	Favorable	550	bush muhly		10
		Normal	400	creosotebush		10
		Unfavorable	300	desert globemallow		5
				littleleaf palo verde		20
				slim tridens		10
				white brittlebush		25
				white bursage		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Rubble land---	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
3:						
Alko family---	Limy Upland 10-13" p.z.	Favorable	550	Mojave yucca		5
		Normal	350	big galleta		10
		Unfavorable	150	blackbrush		55
				bush muhly		10
				creosotebush		5
				goldenhead		5
				red brome		5
4:						
Alko family---	Limy Upland 6-10" p.z.	Favorable	350	Mojave yucca		5
		Normal	250	creosotebush		25
		Unfavorable	100	goldenhead		5
				red brome		15
				white bursage		25
5:						
Amole---------	Sandy Loam Upland 10-13" p.z.	Favorable	1000	Eastern Mojave wild buckwheat		5
		Normal	700	Indian ricegrass		5
		Unfavorable	500	big galleta		10
				black grama		20
				buckhorn cholla		5
				burrobush		10
				bush muhly		15
				goldenhead		5
				range ratany		5
				whitestem paperflower		5
6:						
Amole---------	Sandy Loam Upland 7-10" p.z.	Favorable	900	Indian ricegrass		5
		Normal	700	big galleta		25
		Unfavorable	400	black grama		10
				bush muhly		15
				creosotebush		20
				white bursage		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
7:						
Anthony-------	Sandy Bottom 10-13" p.z.	Favorable	1500	Arizona cottontop		10
		Normal	750	Mexican bladder sage		10
		Unfavorable	500	big galleta		10
				bush muhly		10
				catclaw acacia		10
				fourwing saltbush		5
				sand dropseed		5
				western honey mesquite		10
Dudleyville---	Sandy Bottom 10-12" p.z.	Favorable	1500	Arizona cottontop		10
		Normal	750	Mexican bladder sage		10
		Unfavorable	500	big galleta		10
				bush muhly		10
				catclaw acacia		10
				fourwing saltbush		5
				sand dropseed		5
				western honey mesquite		10
8:						
Aquarius------	Clay Loam Upland 10-13" p.z.	Favorable	700	big galleta		5
		Normal	500	black grama		20
		Unfavorable	300	broom snakeweed		5
				bush muhly		5
				desert globemallow		5
				false mesquite		5
				littleleaf palo verde		5
				range ratany		5
				shrubby buckwheat		5
				sideoats grama		20
				tobosa		15
Akela---------	Basalt Hills 10-13" p.z.	Favorable	500	Eastern Mojave wild buckwheat		5
		Normal	300	big galleta		10
		Unfavorable	100	bush muhly		15
				creosotebush		10
				desert globemallow		5
				desert needlegrass		5
				littleleaf palo verde		20
				range ratany		5
				sideoats grama		5
				slim tridens		5
				white brittlebush		10

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
8:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
9:						
Arizo---------	Sandy Bottom 10-13" p.z.	Favorable	1000	Anderson wolfberry		5
		Normal	600	big galleta		5
		Unfavorable	300	bush muhly		10
				catclaw acacia		5
				creosotebush		5
				desert rabbitbrush		10
				desert willow		5
				red brome		5
				sand dropseed		5
				white burrobush		30
				white bursage		5
Franconia-----	Sandy Bottom 10-13" p.z.	Favorable	1000	Anderson wolfberry		5
		Normal	600	big galleta		5
		Unfavorable	300	bush muhly		10
				catclaw acacia		5
				creosotebush		5
				desert rabbitbrush		10
				red brome		5
				sand dropseed		5
				white burrobush		35
				white bursage		5
Riverwash-----	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
10:						
Arizo---------	Sandy Wash 6-10" p.z.	Favorable	600	catclaw acacia		15
		Normal	350	creosotebush		10
		Unfavorable	100	white burrobrush		50
Franconia-----	Sandy Wash 6-10" p.z.	Favorable	600	catclaw acacia		15
		Normal	350	creosotebush		10
		Unfavorable	100	white burrobrush		50

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
10:						
Riverwash-----	Sandy Wash 6-10" p.z.	Favorable	600	catclaw acacia		15
		Normal	350	creosotebush		10
		Unfavorable	100	white burrobrush		50
11:						
Bartmus-------	Limy Upland 12-16" p.z.	Favorable	900	birchleaf mountain mahogany		5
		Normal	700	black grama		30
		Unfavorable	450	desert ceanothus		5
				muttongrass		5
				needle and thread		10
				range ratany		5
				sideoats grama		25
				slim tridens		5
				turbinella oak		5
				western bottle-brush grass		5
12:						
Bonita family-	Clayey Upland 12-16" p.z.	Favorable	1300	broom snakeweed		5
		Normal	1000	globemallow		5
		Unfavorable	500	muttongrass		10
				shrubby buckwheat		5
				sideoats grama		20
				tobosa		25
				turbinella oak		5
				western bottle-brush grass		10
13:						
Bonita family-	Clayey Upland 12-16" p.z.	Favorable	1300	broom snakeweed		5
		Normal	1000	globemallow		5
		Unfavorable	500	muttongrass		10
				shrubby buckwheat		5
				sideoats grama		20
				tobosa		25
				turbinella oak		5
				western bottle-brush grass		10

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
13:						
Gonzales------	Volcanic Hills 12-16" p.z. Fine	Favorable	1200	birchleaf mountain mahogany		5
		Normal	900	black grama		5
		Unfavorable	700	blue grama		5
				desert ceanothus		10
				desert needlegrass		5
				range ratany		5
				shrubby buckwheat		5
				sideoats grama		15
				skunkbush sumac		5
				sugar sumac		5
14:						
Brazito family	Sandy Bottom 7-10" p.z.	Favorable	2500	Mexican bladder sage		10
		Normal	1500	big galleta		15
		Unfavorable	500	blue palo verde		5
				bush muhly		15
				catclaw acacia		5
				desert needlegrass		5
				littleleaf palo verde		5
				shortleaf baccharis		10
				western honey mesquite		5
				whitestem paperflower		5
15:						
Bucklebar-----	Loamy Hills 10-13" p.z.	Favorable	1000	Arizona cottontop		5
		Normal	700	Eastern Mojave wild buckwheat		5
		Unfavorable	500	Joshua tree		5
				banana yucca		5
				big galleta		10
				black grama		20
				broom snakeweed		5
				bush muhly		10
				creosotebush		5
				goldenhead		5
				plains bristlegrass		5
				range ratany		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
16:						
Cacique family	Limy Upland 7-10" p.z.	Favorable	500	Anderson wolfberry		5
		Normal	250	Eastern Mojave wild buckwheat		5
		Unfavorable	100	big galleta		10
				black grama		5
				bush muhly		15
				creosotebush		20
				littleleaf palo verde		15
				sideoats grama		5
				slim tridens		5
17:						
Castaneda-----	Limy Upland 10-13" p.z.	Favorable	550	Eastern Mojave wild buckwheat		25
		Normal	350	big galleta		10
		Unfavorable	150	bush muhly		10
				creosotebush		5
				goldenhead		10
				range ratany		10
				red brome		5
18:						
Castaneda-----	Limy Upland 6-10" p.z.	Favorable	350	creosotebush		25
		Normal	250	goldenhead		5
		Unfavorable	100	range ratany		5
				red brome		15
				white bursage		25
19:						
Carrizo family	Sandy Bottom 2-7" p.z.	Favorable	2200	big galleta		5
		Normal	1400	burrobush		10
		Unfavorable	300	catclaw acacia		5
				creosotebush		5
				ironwood		25
				littleleaf palo verde		5
				smoketree		5
				white bursage		5
				white ratany		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
20:						
Carrizo family	Sandy Bottom 2-7" p.z.	Favorable	800	big galleta		5
		Normal	600	burrobush		10
		Unfavorable	250	catclaw acacia		5
				creosotebush		5
				ironwood		25
				littleleaf palo verde		5
				smoketree		5
				white bursage		5
				white ratany		5
Riverwash-----	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
21:						
Carrizo-------	Sandy Wash 3-6" p.z.	Favorable	500	creosotebush		25
		Normal	300	white burrobrush		10
		Unfavorable	75	white bursage		25
Riverwash-----	Sandy Wash 3-6" p.z.	Favorable	500	creosotebush		25
		Normal	300	white burrobrush		10
		Unfavorable	75	white bursage		25
22:						
Carrizo-------	Sandy Terrace 3-6" p.z.	Favorable	1000	big galleta		5
		Normal	600	bush muhly		5
		Unfavorable	400	catclaw acacia		5
				creosotebush		10
				red brome		5
				smoketree		10
				sweetbush		5
				white brittlebush		5
				white burrobush		20
				white bursage		10
Riverwash-----	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
23:						
Cave----------	Limy Upland 10-13" p.z.	Favorable	500	big galleta		5
		Normal	300	black grama		15
		Unfavorable	250	bush muhly		15
				creosotebush		10
				littleleaf palo verde		5
				range ratany		5
				shrubby buckwheat		5
				sideoats grama		10
				slim tridens		5
				whitestem paperflower		5
24:						
Cave----------	Limy Upland 7-10" p.z.	Favorable	500	big galleta		10
		Normal	250	black grama		5
		Unfavorable	150	bush muhly		15
				creosotebush		20
				littleleaf palo verde		15
				sideoats grama		5
				slim tridens		5
				white bursage		5
				white ratany		5
25:						
Cellar--------	Granitic Hills 10-12" p.z.	Favorable	1000	Eastern Mojave wild buckwheat		5
		Normal	800	agave		5
		Unfavorable	600	big galleta		5
				black grama		15
				bush muhly		5
				desert needlegrass		10
				false mesquite		5
				ocotillo		5
				shrubby buckwheat		5
				sideoats grama		15
				tobosa		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
26:						
Cellar--------	Granitic Hills 7-10" p.z.	Favorable	700	Eastern Mojave wild buckwheat		5
		Normal	550	agave		5
		Unfavorable	350	big galleta		5
				black grama		5
				bush muhly		20
				desert needlegrass		10
				false mesquite		5
				ocotillo		5
				shrubby buckwheat		5
				sideoats grama		5
				tobosa		15
				white brittlebush		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
27:						
Cellar--------	Granitic Hills 10-12" p.z.	Favorable	1000	Eastern Mojave wild buckwheat		5
		Normal	800	agave		5
		Unfavorable	600	big galleta		5
				black grama		15
				bush muhly		5
				desert needlegrass		10
				false mesquite		5
				ocotillo		5
				shrubby buckwheat		5
				sideoats grama		15
				tobosa		5
Topock--------	Shallow Hills 10-13" p.z.	Favorable	1000	California juniper		5
		Normal	800	Eastern Mojave wild buckwheat		5
		Unfavorable	600	big galleta		5
				black grama		15
				broom snakeweed		5
				desert needlegrass		10
				range ratany		5
				sideoats grama		15
				tobosa		5
				turbinella oak		5
				turpentine bush		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
27:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
28:						
Cherioni------	Limy Upland 2-7" p.z.	Favorable	150	big galleta		5
		Normal	100	bush muhly		5
		Unfavorable	25	creosotebush		20
				teddybear cholla		5
				white brittlebush		15
				white bursage		25
				white ratany		15
29:						
Chuckawalla---	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Riverbend-----	Limy Upland 3-6" p.z. Deep	Favorable	200	creosotebush		50
		Normal	100	white bursage		35
		Unfavorable	25			
30:						
Chuckawalla family-------	Saline Upland 2-7" p.z.	Favorable	---			
		Normal	---			
		Unfavorable	---			
Riverbend family-------	Limy Upland 2-7" p.z. Deep	Favorable	150	big galleta		5
		Normal	100	creosotebush		40
		Unfavorable	25	littleleaf palo verde		5
				white brittlebush		5
				white bursage		20
				white ratany		10

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
31:						
Cipriano------	Limy Upland 2-7" p.z.	Favorable	150	big galleta		5
		Normal	100	bush muhly		5
		Unfavorable	25	creosotebush		40
				littleleaf palo verde		5
				ocotillo		5
				red brome		10
				white bursage		15
				white ratany		10
32:						
Cline---------	Limy Upland 10-13" p.z.	Favorable	500	big galleta		5
		Normal	300	black grama		10
		Unfavorable	250	bush muhly		15
				creosotebush		10
				littleleaf palo verde		5
				range ratany		5
				shrubby buckwheat		5
				sideoats grama		10
				slim tridens		5
				whitestem paperflower		5
33:						
Cline---------	Limy Upland 7-10" p.z.	Favorable	500	Anderson wolfberry		5
		Normal	250	Eastern Mojave wild buckwheat		10
		Unfavorable	150	big galleta		10
				black grama		5
				bush muhly		15
				creosotebush		20
				littleleaf palo verde		15
				sideoats grama		5
				slim tridens		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
34:						
Continental---	Clay Loam Upland 10-12" p.z.	Favorable	700	Eastern Mojave wild buckwheat		10
		Normal	500	big galleta		10
		Unfavorable	350	black grama		10
				bush muhly		5
				canotia		5
				goldenhead		5
				littleleaf palo verde		10
				ocotillo		5
				range ratany		5
				shrubby buckwheat		5
				sideoats grama		5
				tobosa		10
				whitestem paperflower		5
Tres Hermanos-	Loamy Upland 10-12" p.z. Limy	Favorable	900	Indian ricegrass		10
		Normal	400	Joshua tree		5
		Unfavorable	300	big galleta		10
				black grama		10
				bush muhly		10
				goldenhead		5
				plains blackfoot		5
				range ratany		10
				sideoats grama		10
				whitestem paperflower		10
35:						
Continental---	Clay Loam Upland 7-10" p.z.	Favorable	700	Eastern Mojave wild buckwheat		5
		Normal	500	Nevada Mormon tea		5
		Unfavorable	350	big galleta		15
				black grama		5
				bush muhly		5
				creosotebush		5
				goldenhead		5
				littleleaf palo verde		5
				range ratany		5
				sideoats grama		5
				tobosa		15

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
35:						
Tres Hermanos-	Limy Fan 7-10" p.z.	Favorable	600	Joshua tree		5
		Normal	400	big galleta		10
		Unfavorable	200	black grama		5
				bush muhly		5
				creosotebush		25
				goldenhead		5
				range ratany		10
				white bursage		10
				whitestem paperflower		10
36:						
Continental---	Clay Loam Upland 10-12" p.z.	Favorable	700	Eastern Mojave wild buckwheat		10
		Normal	500	big galleta		10
		Unfavorable	350	black grama		10
				bush muhly		5
				canotia		5
				goldenhead		5
				littleleaf palo verde		10
				ocotillo		5
				range ratany		5
				shrubby buckwheat		5
				sideoats grama		5
				tobosa		10
				whitestem paperflower		5
Rillino-------	Loamy Upland 10-12" p.z. Limy	Favorable	900	Indian ricegrass		10
		Normal	400	Joshua tree		5
		Unfavorable	300	big galleta		10
				black grama		10
				bush muhly		10
				canotia		5
				goldenhead		5
				littleleaf palo verde		5
				plains blackfoot		5
				range ratany		10
				sideoats grama		10
				whitestem paperflower		10

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
37:						
Continental---	Clay Loam Upland 7-10" p.z.	Favorable	700	Eastern Mojave wild buckwheat		5
		Normal	500	Nevada Mormon tea		5
		Unfavorable	350	big galleta		15
				black grama		5
				bush muhly		5
				creosotebush		5
				goldenhead		5
				littleleaf palo verde		5
				range ratany		5
				sideoats grama		5
				tobosa		15
Rillino-------	Limy Fan 7-10" p.z.	Favorable	600	Joshua tree		5
		Normal	400	big galleta		10
		Unfavorable	200	black grama		5
				bush muhly		5
				creosotebush		25
				goldenhead		5
				littleleaf palo verde		5
				range ratany		10
				white bursage		10
				whitestem paperflower		10
38:						
Coolidge------	Sandy Loam Upland 2-7" p.z.	Favorable	800	big galleta		5
		Normal	300	blond plantain		10
		Unfavorable	100	creosotebush		40
				littleleaf palo verde		5
				white bursage		20
				white ratany		5
Denure--------	Sandy Loam Upland 2-7" p.z.	Favorable	800	big galleta		5
		Normal	300	blond plantain		10
		Unfavorable	100	creosotebush		40
				littleleaf palo verde		5
				white bursage		20
				white ratany		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
39:						
Coolidge family-------	Limy Fan 3-6" p.z.	Favorable	500	big galleta		5
		Normal	300	blond plantain		10
		Unfavorable	100	creosotebush		40
				white bursage		25
				white ratany		15
Denure family-	Limy Fan 3-6" p.z.	Favorable	500	big galleta		5
		Normal	300	blond plantain		10
		Unfavorable	100	creosotebush		40
				white bursage		25
				white ratany		15
40:						
Courthouse family-------	Volcanic Hills 12-16" p.z. Fine	Favorable	1200	birchleaf mountain mahogany		10
		Normal	900	black grama		10
		Unfavorable	700	desert ceanothus		15
				desert needlegrass		5
				range ratany		5
				sideoats grama		10
				skunkbush sumac		5
				sugar sumac		5
				turbinella oak		15
				western bottle-brush grass		5
				yellow-leaf silktassel		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Rubble land---	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
41:						
Courthouse family-------	Volcanic Hills 12-16" p.z. Fine	Favorable	1200	birchleaf mountain mahogany		10
		Normal	900	black grama		10
		Unfavorable	700	desert ceanothus		15
				desert needlegrass		5
				range ratany		5
				sideoats grama		10
				skunkbush sumac		5
				sugar sumac		5
				turbinella oak		15
				western bottle-brush grass		5
				yellow-leaf silktassel		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Wagonbow------	Clay Loam Slopes 12-16" p.z.	Favorable	800	birchleaf mountain mahogany		5
		Normal	650	black grama		20
		Unfavorable	500	desert ceanothus		10
				desert needlegrass		10
				false mesquite		5
				muttongrass		5
				shrubby buckwheat		5
				sideoats grama		15
				turbinella oak		10
				western bottle-brush grass		5
42:						
Far----------	Granitic Hills 16-20" p.z.	Favorable	1500	Arizona fescue	5	5
		Normal	1000	Gambel oak	5	5
		Unfavorable	850	birchleaf mountain mahogany	10	10
				black grama	15	15
				desert ceanothus	5	5
				false mesquite	5	5
				muttongrass	10	10
				pointleaf manzanita	5	5
				ponderosa pine	5	5
				shrubby buckwheat	5	5
				sideoats grama	15	15
				single-leaf pinyon	5	5
				turbinella oak	5	5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
42:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
43:						
Dutchflat-----	Sandy Loam Upland 6-10" p.z. Fine	Favorable	300	big galleta		35
		Normal	200	white burrobrush		10
		Unfavorable	75			
44:						
Dutchflat-----	Sandy Loam Upland 6-10" p.z. Fine	Favorable	500	Anderson wolfberry		5
		Normal	350	big galleta		15
		Unfavorable	200	buckhorn cholla		5
				bush muhly		5
				creosotebush		20
				goldenhead		5
				range ratany		5
				red brome		5
				white bursage		20
45:						
Gadsden-------	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
46:						
Gila----------	Loamy Bottom 10-12" p.z.	Favorable	1800	Arizona cottontop		25
		Normal	1400	Nevada Mormon tea		5
		Unfavorable	1000	arrowweed		5
				big galleta		10
				bush muhly		25
				catclaw acacia		5
				tobosa		10
				western honey mesquite		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
46:						
Glendale------	Loamy Bottom 10-12" p.z.	Favorable	1800	Arizona cottontop		25
		Normal	1400	Nevada Mormon tea		5
		Unfavorable	1000	arrowweed		5
				big galleta		10
				bush muhly		25
				catclaw acacia		5
				tobosa		10
				western honey mesquite		5
47:						
Gila----------	Loamy Bottom 7-10" p.z.	Favorable	1800	Arizona cottontop		5
		Normal	900	Nevada Mormon tea		5
		Unfavorable	600	arrowweed		5
				big galleta		25
				black grama		5
				bush muhly		20
				catclaw acacia		5
				tobosa		5
				western bottle-brush grass		5
				western honey mesquite		5
Glendale------	Loamy Bottom 7-10" p.z.	Favorable	1800	Arizona cottontop		5
		Normal	900	Nevada Mormon tea		5
		Unfavorable	600	arrowweed		5
				big galleta		25
				black grama		5
				bush muhly		20
				catclaw acacia		5
				tobosa		5
				western bottle-brush grass		5
				western honey mesquite		5
48:						
Goldroad------	Granitic Hills 3-6" p.z.	Favorable	700	Nevada Mormon tea		5
		Normal	300	big galleta		5
		Unfavorable	200	creosotebush		20
				white brittlebush		30
				white bursage		15
				white ratany		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
48:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
49:						
Gonzales------	Volcanic Hills 12-16" p.z. Fine	Favorable	1200	black grama		10
		Normal	900	blue grama		10
		Unfavorable	700	bottlebrush squirreltail		7
				desert needlegrass		7
				sideoats grama		25
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
50:						
Goodsprings family-------	Limy Upland 10-13" p.z.	Favorable	550	Mexican bladder sage		5
		Normal	350	Nevada Mormon tea		5
		Unfavorable	150	Schott yucca		10
				big galleta		5
				broom snakeweed		5
				bush muhly		10
				creosotebush		10
				goldenhead		5
				ocotillo		5
				red brome		5
				white bursage		25
51:						
Goodsprings family-------	Limy Upland 6-10" p.z.	Favorable	350	Mexican bladder sage		5
		Normal	250	Nevada Mormon tea		5
		Unfavorable	100	big galleta		5
				creosotebush		25
				goldenhead		5
				ocotillo		5
				red brome		10
				white bursage		25

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
52:						
Goodsprings family-------	Sandy Loam Hills 10-13" p.z. Limy, Shallow	Favorable	---	Mexican bladder sage		25
		Normal	475	big galleta		30
		Unfavorable	---	rayless goldenhead		10
53:						
Goodsprings family-------	Limy Upland 6-10" p.z.	Favorable	350	Mexican bladder sage		5
		Normal	250	Nevada Mormon tea		5
		Unfavorable	100	big galleta		5
				creosotebush		25
				goldenhead		5
				ocotillo		5
				red brome		10
				white bursage		25
54:						
Graham--------	Volcanic Upland 12-16" p.z.	Favorable	500	Aristida		10
		Normal	300	Opuntia		7
		Unfavorable	100	Stansbury cliffrose		15
				Utah juniper		10
				black grama		7
				blue grama		7
				broom snakeweed		15
Arivaca-------	Clay Loam Upland 12-16" p.z.	Favorable	1150	black grama		15
		Normal	950	blue grama		15
		Unfavorable	750	bottlebrush squirreltail		10
				muttongrass		10
				sideoats grama		20
55:						
Graham--------	Volcanic Hills 12-16" p.z. Fine	Favorable	1200	black grama		10
		Normal	900	blue grama		10
		Unfavorable	700	bottlebrush squirreltail		7
				desert needlegrass		7
				sideoats grama		25
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
56:						
Gunsight------	Limy Upland 2-7" p.z. Deep	Favorable	150	big galleta		5
		Normal	100	bush muhly		5
		Unfavorable	25	creosotebush		25
				red brome		10
				white brittlebush		5
				white bursage		25
				white ratany		10
57:						
Gunsight------	Limy Slopes 2-7" p.z.	Favorable	250	big galleta		5
		Normal	175	bush muhly		5
		Unfavorable	75	creosotebush		50
				red brome		10
				white brittlebush		5
				white bursage		5
				white ratany		5
58:						
Hassell family	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
Lampshire-----	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
Rock outcrop--	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
59:						
Holtville-----	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
60:						
Huevi---------	Limy Slopes 3-6" p.z.	Favorable	250	creosotebush		60
		Normal	125	red brome		5
		Unfavorable	50	white brittlebush		5
				white bursage		10
				white ratany		5
61:						
Huevi---------	Limy Slopes 3-6" p.z.	Favorable	200	creosotebush		60
		Normal	100	white bursage		15
		Unfavorable	25			
62:						
Akela---------	Granitic Hills 7-10" p.z.	Favorable	700	Eastern Mojave wild buckwheat		10
		Normal	550	bush muhly		15
		Unfavorable	350	desert needlegrass		10
				littleleaf palo verde		5
				shrubby buckwheat		5
				slim tridens		5
				tobosa		20
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
63:						
Hyder---------	Basalt Hills 2-7" p.z.	Favorable	450	Nevada Mormon tea		10
		Normal	350	big galleta		10
		Unfavorable	200	bush muhly		5
				creosotebush		5
				desert globemallow		5
				littleleaf palo verde		10
				shrubby buckwheat		10
				white brittlebush		5
				white bursage		5
				white ratany		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
63:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Rubble land---	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
64:						
Indio---------	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
65:						
Ireteba family	Sandy Wash 10-13" p.z.	Favorable	900	catclaw acacia		15
		Normal	550	creosotebush		10
		Unfavorable	200	white burrobrush		35
Arizo---------	Sandy Wash 10-13" p.z.	Favorable	900	catclaw acacia		15
		Normal	550	creosotebush		10
		Unfavorable	200	white burrobrush		35
66:						
Kinley--------	Sandy Loam Slopes 10-13" p.z. Limy, Skeletal	Favorable	700	Aristida		20
		Normal	450	Mexican bladdersage		15
		Unfavorable	200	banana yucca		7
				big galleta		7
				black grama		20
				turbinella oak		7
67:						
Kinley--------	Limy Fan 6-10" p.z.	Favorable	400	Anderson wolfberry		5
		Normal	300	Joshua tree		5
		Unfavorable	200	Nevada Mormon tea		5
				big galleta		5
				catclaw acacia		5
				creosotebush		30
				goldenhead		5
				range ratany		5
				white bursage		30

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
67:						
Poachie-------	Limy Fan 6-10" p.z.	Favorable	400	Joshua tree		5
		Normal	300	big galleta		5
		Unfavorable	200	creosotebush		35
				goldenhead		5
				range ratany		5
				red brome		5
				white bursage		30
68:						
Kofa----------	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
69:						
Dudleyville---	Sandy Bottom 10-12" p.z.	Favorable	1500	Arizona cottontop		10
		Normal	750	Mexican bladder sage		10
		Unfavorable	500	big galleta		10
				bush muhly		10
				catclaw acacia		10
				fourwing saltbush		5
				sand dropseed		5
				western honey mesquite		10
Vinton--------	Sandy Bottom 10-12" p.z.	Favorable	1500	Arizona cottontop		10
		Normal	750	Mexican bladder sage		10
		Unfavorable	500	big galleta		10
				bush muhly		10
				catclaw acacia		10
				fourwing saltbush		5
				sand dropseed		5
				western honey mesquite		10
Riverwash-----	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
70:						
Dudleyville---	Sandy Bottom 7-10" p.z.	Favorable	2500	Mexican bladder sage		10
		Normal	1500	big galleta		15
		Unfavorable	500	blue palo verde		5
				bush muhly		15
				catclaw acacia		5
				desert needlegrass		5
				littleleaf palo verde		5
				shortleaf baccharis		10
				western bottle-brush grass		5
				western honey mesquite		5
				whitestem paperflower		5
Vinton--------	Sandy Bottom 7-10" p.z.	Favorable	2500	Mexican bladder sage		10
		Normal	1500	big galleta		15
		Unfavorable	500	blue palo verde		5
				bush muhly		15
				catclaw acacia		5
				desert needlegrass		5
				littleleaf palo verde		5
				shortleaf baccharis		10
				western bottle-brush grass		5
				western honey mesquite		5
				whitestem paperflower		5
Riverwash-----	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
71:						
Lagunita------	---	Favorable	800			
		Normal	600			
		Unfavorable	250			
72:						
Lagunita------	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Ripley--------	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
73:						
Lampshire-----	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
Rock outcrop--	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
74:						
Lampshire-----	Granitic Hills 12-16" p.z.	Favorable	1500	Wright silktassel		5
		Normal	1000	birchleaf mountain mahogany		10
		Unfavorable	850	black grama		10
				bush muhly		5
				desert ceanothus		10
				desert needlegrass		5
				pointleaf manzanita		5
				shrubby buckwheat		5
				sideoats grama		10
				single-leaf pinyon		5
				turbinella oak		20
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
75:						
Lampshire-----	Volcanic Hills 12-16" p.z. Fine	Favorable	1200	birchleaf mountain mahogany		5
		Normal	900	black grama		5
		Unfavorable	700	blue grama		5
				desert ceanothus		10
				desert needlegrass		5
				range ratany		5
				shrubby buckwheat		5
				sideoats grama		15
				skunkbush sumac		5
				sugar sumac		5
				turbinella oak		10
				yellow-leaf silktassel		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
76:						
Lostman-------	Coarse Sandy Loam 10-13" p.z.	Favorable	650	big galleta		20
		Normal	350	creosotebush		40
		Unfavorable	50	white bursage		20
77:						
Lostman-------	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	300	big galleta		5
		Normal	200	creosotebush		40
		Unfavorable	100	goldenhead		5
				white bursage		35
78:						
Lostman-------	Coarse Sandy Loam 10-13" p.z.	Favorable	600	big galleta		50
		Normal	400	black grama		5
		Unfavorable	200	bush muhly		5
				creosotebush		20

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
78:						
Kinley--------	Sandy Loam Slopes 10-13" p.z. Limy, Skeletal	Favorable	800	Mexican bladder sage		10
		Normal	600	Nevada Mormon tea		5
		Unfavorable	400	big galleta		10
				black grama		5
				broom snakeweed		5
				bush muhly		5
				creosotebush		10
				goldenhead		10
				range ratany		5
				winterfat		5
79:						
Marshes-------	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
80:						
Meloland------	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
81:						
Mohon---------	Sandy Clay Loam Upland 10-13" p.z. Gravelly	Favorable	450	Anderson wolfberry		5
		Normal	350	Nevada Mormon tea		5
		Unfavorable	250	Schott yucca		5
				big galleta		5
				catclaw acacia		5
				creosotebush		30
				range ratany		5
				white bursage		25
Kinley--------	Limy Fan 10-13" p.z.	Favorable	700	Anderson wolfberry		5
		Normal	500	Mexican bladder sage		5
		Unfavorable	300	big galleta		20
				black grama		5
				broom snakeweed		5
				bush muhly		10
				creosotebush		10
				goldenhead		5
				range ratany		5
				winterfat		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
82:						
Mohon---------	Sandy Clay Loam Upland 10-13" p.z. Gravelly	Favorable	450	Anderson wolfberry		5
		Normal	350	Nevada Mormon tea		5
		Unfavorable	250	Schott yucca		5
				big galleta		5
				catclaw acacia		5
				creosotebush		30
				range ratany		5
				white bursage		25
Poachie-------	Limy Fan 10-13" p.z.	Favorable	700	Anderson wolfberry		5
		Normal	500	Joshua tree		5
		Unfavorable	300	big galleta		5
				black grama		5
				broom snakeweed		5
				bush muhly		5
				creosotebush		20
				desert globemallow		5
				goldenhead		10
				range ratany		5
				red brome		5
				winterfat		10
83:						
Mohon---------	Clay Loam Upland 6-10" p.z.	Favorable	450	Anderson wolfberry		5
		Normal	350	Nevada Mormon tea		5
		Unfavorable	250	Schott yucca		5
				big galleta		5
				catclaw acacia		5
				creosotebush		30
				range ratany		5
				white bursage		25
Poachie-------	Limy Fan 6-10" p.z.	Favorable	400	Joshua tree		5
		Normal	300	big galleta		5
		Unfavorable	200	creosotebush		35
				goldenhead		5
				range ratany		5
				red brome		5
				white bursage		30

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
84:						
Nickel family-	Sandy Loam Slopes 10-13" p.z. Limy, Skeletal	Favorable	700	Aristida		20
		Normal	450	Mexican bladdersage		15
		Unfavorable	200	banana yucca		7
				big galleta		7
				black grama		20
				turbinella oak		7
Topawa family-	Sandy Loam Slopes 10-13" p.z. Fine, Skeletal	Favorable	700	Mexican bladdersage		10
		Normal	500	banana yucca		10
		Unfavorable	300	black grama		20
				flattop buckwheat		20
				turbinella oak		20
Eba family----	Clay Loam Upland 10-13" p.z.	Favorable	750	Mexican bladdersage		7
		Normal	325	big galleta		25
		Unfavorable	100	flattop buckwheat		15
85:						
Orwash family-	Coarse Sandy Loam 10-13" p.z.	Favorable	600	Joshua tree		5
		Normal	400	big galleta		40
		Unfavorable	200	black grama		5
				bush muhly		5
				creosotebush		5
				goldenhead		5
				red brome		5
				white burrobush		10
86:						
Orwash family-	Sandy Loam Upland 6-10" p.z. Limy Subsurface, Gravelly	Favorable	300	big galleta		5
		Normal	200	creosotebush		40
		Unfavorable	100	goldenhead		10
				red brome		5
				white bursage		35

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
87:						
Penthouse-----	Clay Loam Upland 12-16" p.z.	Favorable	1100	Utah juniper		5
		Normal	950	black grama		5
		Unfavorable	750	blue grama		5
				desert ceanothus		5
				false mesquite		5
				hairy grama		5
				muttongrass		5
				range ratany		5
				rough menodora		5
				sideoats grama		20
				turbinella oak		5
				western bottle-brush grass		10
				western-wheat grass		5
Gonzales------	Volcanic Hills 12-16" p.z. Fine	Favorable	1200	birchleaf mountain mahogany		5
		Normal	900	black grama		5
		Unfavorable	700	blue grama		5
				desert ceanothus		10
				desert needlegrass		5
				range ratany		5
				shrubby buckwheat		5
				sideoats grama		15
				skunkbush sumac		5
				sugar sumac		5
88:						
Poachie-------	Limy Fan 10-13" p.z.	Favorable	700	Anderson wolfberry		5
		Normal	500	Joshua tree		5
		Unfavorable	300	big galleta		5
				black grama		5
				broom snakeweed		5
				bush muhly		5
				creosotebush		20
				desert globemallow		5
				goldenhead		10
				range ratany		5
				red brome		5
				winterfat		10

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
89:						
Poachie-------	Limy Fan 6-10" p.z.	Favorable	400	Joshua tree		5
		Normal	300	big galleta		5
		Unfavorable	200	creosotebush		35
				goldenhead		5
				range ratany		5
				red brome		5
				white bursage		30
90:						
Quilotosa-----	Granitic Hills 7-10" p.z.	Favorable	300	blond plantain		5
		Normal	225	bush muhly		5
		Unfavorable	150	desert globemallow		5
				littleleaf palo verde		15
				ocotillo		5
				white brittlebush		20
				white bursage		15
				white ratany		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
91:						
Razorback-----	Andesite Hills 6-10" p.z. Coarse	Favorable	600	creosotebush		35
		Normal	300	white bursage		30
		Unfavorable	75			
92:						
Razorback-----	Basalt Hills 6-10" p.z.	Favorable	500	Eastern Mojave wild buckwheat		5
		Normal	300	Nevada Mormon tea		10
		Unfavorable	100	big galleta		5
				blackbrush		5
				bush encelia		5
				creosotebush		30
				range ratany		10
				red brome		10
				white bursage		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
93:						
Razorback-----	Basalt Hills 10-13" p.z. Limy	Favorable	800	black grama		7
		Normal	300	creosotebush		30
		Unfavorable	100	rayless brittlebush		15
				slim tridens		10
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
94:						
Razorback-----	Basalt Hills 6-10" p.z.	Favorable	500	Eastern Mojave wild buckwheat		5
		Normal	300	Nevada Mormon tea		10
		Unfavorable	100	big galleta		5
				blackbrush		5
				bush encelia		5
				creosotebush		30
				range ratany		10
				red brome		10
				white bursage		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
95:						
Razorback-----	Basalt Hills 10-13" p.z. Limy	Favorable	800	Eastern Mojave wild buckwheat		15
		Normal	400	Nevada Mormon tea		5
		Unfavorable	200	big galleta		5
				blackbrush		5
				bush encelia		5
				creosotebush		10
				desert needlegrass		5
				range ratany		5
				red brome		10
				turpentine bush		5
				white bursage		10

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
95:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Rubble land---	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
96:						
Razorback-----	Basalt Hills 6-10" p.z.	Favorable	500	Eastern Mojave wild buckwheat		5
		Normal	300	Nevada Mormon tea		10
		Unfavorable	100	big galleta		5
				blackbrush		5
				bush encelia		5
				creosotebush		30
				range ratany		10
				red brome		10
				white bursage		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Rubble land---	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
97:						
Rillino-------	Limy Fan 7-10" p.z.	Favorable	600	Joshua tree		5
		Normal	400	big galleta		10
		Unfavorable	200	black grama		5
				bush muhly		5
				creosotebush		25
				goldenhead		5
				littleleaf palo verde		5
				range ratany		10
				white bursage		10
				whitestem paperflower		10

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
98:						
Rillino-------	Limy Fan 7-10" p.z.	Favorable	600	Joshua tree		5
		Normal	400	big galleta		10
		Unfavorable	200	black grama		5
				bush muhly		5
				creosotebush		25
				goldenhead		5
				littleleaf palo verde		5
				range ratany		10
				white bursage		10
				whitestem paperflower		10
Tres Hermanos-	Limy Fan 7-10" p.z.	Favorable	600	Joshua tree		5
		Normal	400	big galleta		10
		Unfavorable	200	black grama		5
				bush muhly		5
				creosotebush		25
				goldenhead		5
				range ratany		10
				white bursage		10
				whitestem paperflower		10
99:						
Ripley--------	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
100:						
Riverbend family-------	Limy Upland 2-7" p.z. Deep	Favorable	150	big galleta		5
		Normal	100	creosotebush		40
		Unfavorable	25	littleleaf palo verde		5
				white brittlebush		5
				white bursage		20
				white ratany		10
101:						
Riverbend-----	Limy Upland 3-6" p.z. Deep	Favorable	250	Mediterranean grass		5
		Normal	125	Nevada Mormon tea		5
		Unfavorable	50	creosotebush		55
				white bursage		20
				white ratany		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
102:						
Riverwash-----	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Fluvaquents---	Sandy Bottom 12-16" p.z.	Favorable	2000	Fremont cottonwood		15
		Normal	1400	burrobush		5
		Unfavorable	800	netleaf hackberry		5
				sand dropseed		5
				seep willow		5
				sideoats grama		5
				skunkbush sumac		5
				spike dropseed		5
				vine mesquite		5
				western bottle-brush grass		5
				western-wheat grass		20
				willow		5
103:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Hyder---------	Volcanic Hills 2-7" p.z.	Favorable	300	Nevada Mormon tea		5
		Normal	225	big galleta		5
		Unfavorable	150	bush muhly		5
				creosotebush		5
				desert globemallow		5
				littleleaf palo verde		5
				white brittlebush		50
				white bursage		5
				white ratany		5
104:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
104:						
Razorback-----	Andesite Hills 6-10" p.z.	Favorable	500	blackbrush		10
		Normal	350	creosotebush		15
		Unfavorable	200	flattop buckwheat		20
				white bursage		20
105:						
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
Sunrock-------	Volcanic Hills 3-6" p.z.	Favorable	350	bush encelia		5
		Normal	250	creosotebush		25
		Unfavorable	150	desert needlegrass		5
				red brome		5
				white brittlebush		20
				white bursage		25
				white ratany		5
106:						
Romero--------	Granitic Hills 12-16" p.z.	Favorable	1500	Colorado pinyon		3
		Normal	1000	Eriogonum		10
		Unfavorable	500	Utah juniper		15
				singleleaf pinyon		4
				turbinella oak		30
Chiricahua----	Granitic Hills 12-16" p.z.	Favorable	1500	Colorado pinyon		3
		Normal	1000	Eriogonum		10
		Unfavorable	500	Utah juniper		15
				singleleaf pinyon		4
				turbinella oak		30
Rock outcrop--	Granitic/Schist Upland 10-13" p.z.	Favorable	1500	Colorado pinyon		3
		Normal	1000	Eriogonum		10
		Unfavorable	500	Utah juniper		15
				singleleaf pinyon		4
				turbinella oak		30

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
107:						
Romero--------	Granitic Hills 12-16" p.z.	Favorable	1000	birchleaf mountain mahogany		10
		Normal	750	black grama		10
		Unfavorable	600	bush muhly		5
				desert ceanothus		20
				shrubby buckwheat		5
				sideoats grama		15
				turbinella oak		20
Lampshire-----	Granitic Hills 12-16" p.z.	Favorable	1500	Wright silktassel		5
		Normal	1000	birchleaf mountain mahogany		10
		Unfavorable	850	black grama		10
				bush muhly		5
				desert ceanothus		10
				desert needlegrass		5
				pointleaf manzanita		5
				shrubby buckwheat		5
				sideoats grama		10
				single-leaf pinyon		5
				turbinella oak		20
Rock outcrop--	Granitic/Schist Hills 12-16" p.z. Paralithic	Favorable	---			
		Normal	---			
		Unfavorable	---			
108:						
Rositas family	Deep Sand 2-7" p.z.	Favorable	800	big galleta		40
		Normal	500	birdcage eveningprimrose		5
		Unfavorable	200	creosotebush		10
				white bursage		10
Superstition--	Limy Fan 2-7" p.z. Sandy	Favorable	750	big galleta		30
		Normal	500	creosotebush		20
		Unfavorable	300	white bursage		25
				white ratany		10
Torriorthents-	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
109:						
Rositas-------	Sandy Upland 3-6" p.z.	Favorable	900	big galleta		70
		Normal	500	creosotebush		5
		Unfavorable	200	white bursage		5
				white ratany		5
Superstition family-------	Limy Fan 3-6" p.z. Sandy	Favorable	350	big galleta		10
		Normal	250	creosotebush		25
		Unfavorable	150	white bursage		40
				white ratany		10
Torriorthents-	Breaks 3-6" p.z.	Favorable	400	creosotebush		15
		Normal	250	smoketree		7
		Unfavorable	15	triangle bursage		10
				white bursage		7
				white ratany		7
110:						
Stagecoach----	Sandy Loam Slopes 7-10" p.z. Limy	Favorable	800	big galleta		20
		Normal	400	black grama		10
		Unfavorable	250	buckhorn cholla		5
				bush muhly		10
				creosotebush		15
				littleleaf palo verde		5
				ocotillo		5
				range ratany		5
				white brittlebush		5
				white bursage		5
111:						
Stagecoach----	Sandy Loam Slopes 7-10" p.z. Limy	Favorable	800	big galleta		20
		Normal	400	black grama		10
		Unfavorable	250	buckhorn cholla		5
				bush muhly		10
				creosotebush		15
				littleleaf palo verde		5
				ocotillo		5
				range ratany		5
				white brittlebush		5
				white bursage		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
112:						
Stagecoach----	Loamy Upland 10-12" p.z. Limy	Favorable	900	Nevada Mormon tea		5
		Normal	400	big galleta		10
		Unfavorable	300	black grama		10
				broom snakeweed		5
				bush muhly		10
				creosotebush		5
				goldenhead		5
				littleleaf palo verde		5
				range ratany		5
				white bursage		5
113:						
Stagecoach----	Sandy Loam Slopes 7-10" p.z. Limy	Favorable	500	Nevada Mormon tea		5
		Normal	250	big galleta		5
		Unfavorable	100	buckhorn cholla		5
				bush muhly		5
				creosotebush		30
				littleleaf palo verde		10
				white bursage		15
				white ratany		5
114:						
Stagecoach----	Loamy Upland 10-12" p.z. Limy	Favorable	900	Nevada Mormon tea		5
		Normal	400	big galleta		10
		Unfavorable	300	black grama		10
				broom snakeweed		5
				bush muhly		10
				creosotebush		5
				goldenhead		5
				littleleaf palo verde		5
				range ratany		5
				white bursage		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
114:						
Topawa family-	Loamy Upland 10-12" p.z. Limy	Favorable	900	Nevada Mormon tea		5
		Normal	400	big galleta		10
		Unfavorable	300	black grama		10
				broom snakeweed		5
				bush muhly		10
				creosotebush		5
				goldenhead		5
				littleleaf palo verde		5
				range ratany		5
				white bursage		5
Eba----------	Clay Loam Upland 10-12" p.z.	Favorable	700	Eastern Mojave wild buckwheat		10
		Normal	500	big galleta		10
		Unfavorable	300	black grama		20
				bush muhly		10
				canotia		5
				false mesquite		5
				littleleaf palo verde		5
				range ratany		5
				tobosa		10
				turpentine bush		5
115:						
Stagecoach----	Sandy Loam Slopes 7-10" p.z. Limy	Favorable	800	big galleta		20
		Normal	400	black grama		10
		Unfavorable	250	buckhorn cholla		5
				bush muhly		10
				creosotebush		15
				littleleaf palo verde		5
				ocotillo		5
				range ratany		5
				white brittlebush		5
				white bursage		5

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
115:						
Topawa family-	Sandy Loam Slopes 7-10" p.z. Limy	Favorable	800	big galleta		20
		Normal	400	black grama		10
		Unfavorable	250	buckhorn cholla		5
				bush muhly		10
				creosotebush		15
				littleleaf palo verde		5
				ocotillo		5
				range ratany		5
				white brittlebush		5
				white bursage		5
Eba----------	Clay Loam Upland 7-10" p.z.	Favorable	700	Nevada Mormon tea		5
		Normal	500	big galleta		20
		Unfavorable	350	black grama		5
				bush muhly		5
				littleleaf palo verde		5
				range ratany		5
				tobosa		20
				white bursage		5
116:						
Sunrock-------	Volcanic Hills 3-6" p.z.	Favorable	700	creosotebush		40
		Normal	300	white brittlebush		25
		Unfavorable	25	white bursage		15
117:						
Sunrock-------	Volcanic Hills 3-6" p.z.	Favorable	300	bush encelia		5
		Normal	200	creosotebush		40
		Unfavorable	100	white brittlebush		5
				white bursage		25
				white ratany		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
118:						
Tombstone-----	Limy Upland 12-16" p.z.	Favorable	900	black grama		30
		Normal	700	desert ceanothus		5
		Unfavorable	450	muttongrass		5
				needle and thread		10
				range ratany		5
				sideoats grama		25
				slim tridens		5
				turbinella oak		5
				western bottle-brush grass		5
Caralampi-----	Limy Upland 12-16" p.z.	Favorable	900	black grama		30
		Normal	700	desert ceanothus		5
		Unfavorable	450	muttongrass		5
				needle and thread		10
				range ratany		5
				sideoats grama		25
				slim tridens		5
				turbinella oak		5
Eloma---------	Clay Loam Upland 12-16" p.z.	Favorable	1100	black grama		5
		Normal	950	blue grama		5
		Unfavorable	750	desert ceanothus		5
				false mesquite		5
				muttongrass		5
				range ratany		5
				rough menodora		5
				sideoats grama		20
				turbinella oak		5
				western bottle-brush grass		10
				western-wheat grass		5
119:						
Torriorthents-	Loamy Breaks 10-12" p.z.	Favorable	---			
		Normal	---			
		Unfavorable	---			
120:						
Torriorthents-	Loamy Breaks 7-10" p.z.	Favorable	---			
		Normal	---			
		Unfavorable	---			

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
121:						
Tumarion------	Limy Upland 10-13" p.z.	Favorable	500	Juniperus		20
		Normal	300	Yucca		10
		Unfavorable	100	broom snakeweed		20
122:						
Tumarion------	Limy Upland 6-10" p.z.	Favorable	350	Mojave yucca		5
		Normal	250	creosotebush		25
		Unfavorable	100	goldenhead		5
				red brome		15
				white bursage		25
123:						
Tyro----------	Sandy Loam Hills 3-6" p.z. Limy, Gravelly, Shallow	Favorable	300	blond plantain		10
		Normal	150	creosotebush		50
		Unfavorable	50	red brome		5
				white brittlebush		10
				white ratany		5
124:						
Tyro----------	Sandy Loam Hills 3-6" p.z. Limy, Gravelly, Shallow	Favorable	300	blond plantain		10
		Normal	150	creosotebush		50
		Unfavorable	50	red brome		5
				white brittlebush		10
				white ratany		5
125:						
Vekol family--	Sandy Loam Upland 10-13" p.z. Fine	Favorable	600	Opuntia		10
		Normal	350	big galleta		15
		Unfavorable	100	black grama		7
				burrograss		10
				rayless goldenhead		7

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
126:						
Vekol family--	Clay Loam Upland 7-10" p.z.	Favorable	700	Nevada Mormon tea		5
		Normal	500	big galleta		20
		Unfavorable	350	black grama		5
				bush muhly		5
				goldenhead		5
				littleleaf palo verde		5
				range ratany		5
				tobosa		20
				white bursage		5
127:						
Water---------	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
128:						
Whitehills----	Limy Upland 10-13" p.z.	Favorable	600	big galleta		10
		Normal	350	creosotebush		20
		Unfavorable	150	white bursage		20
129:						
Whitehills----	Limy Upland 6-10" p.z.	Favorable	350	Anderson wolfberry		5
		Normal	250	Mojave yucca		5
		Unfavorable	100	creosotebush		25
				goldenhead		5
				range ratany		5
				red brome		15
				white bursage		25
130:						
White House family-------	Sandy Loam Upland 10-13" p.z. Fine, Gravelly	Favorable	700	Aristida		10
		Normal	450	banana yucca		10
		Unfavorable	200	big galleta		15
				black grama		10

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
131:						
White House---	Loamy Upland 12-16" p.z.	Favorable	600	Opuntia		10
		Normal	350	Utah juniper		10
		Unfavorable	100	banana yucca		10
				big galleta		15
				black grama		7
				burrograss		10
				rayless goldenhead		7
132:						
Wikieup-------	Granitic/Schist Hills 10-13" p.z. Alkaline	Favorable	800	Eastern Mojave wild buckwheat		20
		Normal	600	Nevada Mormon tea		5
		Unfavorable	400	big galleta		15
				desert needlegrass		20
				range ratany		5
				red brome		5
				turbinella oak		5
				white brittlebush		5
Mutang--------	Granitic/Schist Hills 10-13" p.z. Alkaline	Favorable	800	big galleta		5
		Normal	600	black grama		15
		Unfavorable	400	broom snakeweed		5
				desert needlegrass		20
				range ratany		5
				sideoats grama		5
				turpentine bush		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
133:						
Mutang--------	Granitic/Schist Upland 10-13" p.z.	Favorable	1500	Eriogonum		10
		Normal	1000	Utah juniper		15
		Unfavorable	500	banana yucca		15
				desert ceanothus		10
				turbinella oak		30

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
133:						
Wikieup-------	Granitic/Schist Upland 10-13" p.z.	Favorable	1500	Eriogonum		10
		Normal	1000	Utah juniper		15
		Unfavorable	500	banana yucca		15
				desert ceanothus		10
				turbinella oak		30
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
134:						
Wikieup-------	Granitic Hills 6-10" p.z.	Favorable	600	Nevada Mormon tea		5
		Normal	400	Parish threeawn		5
		Unfavorable	200	big galleta		15
				bush encelia		5
				creosotebush		5
				desert needlegrass		15
				red brome		5
				white brittlebush		5
Rock outcrop--	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
135:						
Yahana family-	---	Favorable	---			
		Normal	---			
		Unfavorable	---			
136:						
Tumarion------	Loamy Slopes 10-13" p.z. Cobbly	Favorable	800	black grama		7
		Normal	300	creosotebush		30
		Unfavorable	100	rayless brittlebush		15
				slim tridens		10
Nickel family-	Basalt Hills 10-13" p.z. Limy	Favorable	600	big galleta		7
		Normal	400	bush muhly		7
		Unfavorable	200	creosotebush		50

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition: Forest Understory	Composition: Range
			Lb/acre		Pct	Pct
137:						
Valena--------	Granitic Upland 12-16" p.z.	Favorable	1000	Utah juniper		10
		Normal	700	black grama		7
		Unfavorable	300	broom snakeweed		7
				desert ceanothus		10
				pointleaf manzanita		10
				turbinella oak		25
Rock outcrop--	Granitic Upland 12-16" p.z.	Favorable	1000	Utah juniper		10
		Normal	700	black grama		7
		Unfavorable	300	broom snakeweed		7
				desert ceanothus		10
				pointleaf manzanita		10
				turbinella oak		25
Carri family--	Sandy Loam Upland 12-16" p.z.	Favorable	---	pointleaf manzanita		10
		Normal	---			
		Unfavorable	---			
138:						
Nodman--------	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
Rock outcrop--	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20

Table 3.--Rangeland and Forest Understory Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Understory	Range
			Lb/acre		Pct	Pct
139:						
Nodman--------	Granitic/Schist Hills 10-13" p.z.	Favorable	1500	Colorado pinyon		10
		Normal	1000	Opuntia		10
		Unfavorable	500	banana yucca		10
				desert ceanothus		20
				desert needlegrass		7
				singleleaf pinyon		10
				turbinella oak		20
Romero family-	Basalt/Schist Hills 10-13" p.z.	Favorable	800	Eriogonum		7
		Normal	550	Opuntia		20
		Unfavorable	300	Pleuraphis		20
				banana yucca		10
				black grama		7
				sideoats grama		7

Table 4.--Forestland Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
1:				
Akela	---	---	---	---
Rock outcrop	---	---	---	---
Rubble land	---	---	---	---
2:				
Akela	---	---	---	---
Rock outcrop	---	---	---	---
Rubble land	---	---	---	---
3:				
Alko family	---	---	---	---
4:				
Alko family	---	---	---	---
5:				
Amole	---	---	---	---
6:				
Amole	---	---	---	---
7:				
Anthony	---	---	---	---
Dudleyville	---	---	---	---
8:				
Aquarius	---	---	---	---
Akela	---	---	---	---
Rock outcrop	---	---	---	---
9:				
Arizo	---	---	---	---
Franconia	---	---	---	---
Riverwash	---	---	---	---
10:				
Arizo	---	---	---	---
Franconia	---	---	---	---
Riverwash	---	---	---	---
11:				
Bartmus	---	---	---	---

Table 4.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
12:				
Bonita family	---	---	---	---
13:				
Bonita family	---	---	---	---
Gonzales	---	---	---	---
14:				
Brazito family	---	---	---	---
15:				
Bucklebar	---	---	---	---
16:				
Cacique family	---	---	---	---
17:				
Castaneda	---	---	---	---
18:				
Castaneda	---	---	---	---
19:				
Carrizo family	---	---	---	---
20:				
Carrizo family	---	---	---	---
Riverwash	---	---	---	---
21:				
Carrizo	---	---	---	---
Riverwash	---	---	---	---
22:				
Carrizo	---	---	---	---
Riverwash	---	---	---	---
23:				
Cave	---	---	---	---
24:				
Cave	---	---	---	---
25:				
Cellar	---	---	---	---
Rock outcrop	---	---	---	---

Table 4.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
26:				
Cellar	---	---	---	---
Rock outcrop	---	---	---	---
27:				
Cellar	---	---	---	---
Topock	---	---	---	---
Rock outcrop	---	---	---	---
28:				
Cherioni	---	---	---	---
29:				
Chuckawalla	---	---	---	---
Riverbend	---	---	---	---
30:				
Chuckawalla family	---	---	---	---
Riverbend family	---	---	---	---
31:				
Cipriano	---	---	---	---
32:				
Cline	---	---	---	---
33:				
Cline	---	---	---	---
34:				
Continental	---	---	---	---
Tres Hermanos	---	---	---	---
35:				
Continental	---	---	---	---
Tres Hermanos	---	---	---	---
36:				
Continental	---	---	---	---
Rillino	---	---	---	---
37:				
Continental	---	---	---	---
Rillino	---	---	---	---

Table 4.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
38:				
Coolidge	---	---	---	---
Denure	---	---	---	---
39:				
Coolidge family	---	---	---	---
Denure family	---	---	---	---
40:				
Courthouse family	---	---	---	---
Rock outcrop	---	---	---	---
Rubble land	---	---	---	---
41:				
Courthouse family	---	---	---	---
Rock outcrop	---	---	---	---
Wagonbow	---	---	---	---
42:				
Far	ponderosa pine	60	43	ponderosa pine
Rock outcrop	---	---	---	---
43:				
Dutchflat	---	---	---	---
44:				
Dutchflat	---	---	---	---
45:				
Gadsden	---	---	---	---
46:				
Gila	---	---	---	---
Glendale	---	---	---	---
47:				
Gila	---	---	---	---
Glendale	---	---	---	---
48:				
Goldroad	---	---	---	---
Rock outcrop	---	---	---	---

Table 4.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
49:				
Gonzales	---	---	---	---
Rock outcrop	---	---	---	---
50:				
Goodsprings family	---	---	---	---
51:				
Goodsprings family	---	---	---	---
52:				
Goodsprings family	---	---	---	---
53:				
Goodsprings family	---	---	---	---
54:				
Graham	---	---	---	---
Arivaca	---	---	---	---
55:				
Graham	---	---	---	---
Rock outcrop	---	---	---	---
56:				
Gunsight	---	---	---	---
57:				
Gunsight	---	---	---	---
58:				
Hassell family	---	---	---	---
Lampshire	---	---	---	---
Rock outcrop	---	---	---	---
59:				
Holtville	---	---	---	---
60:				
Huevi	---	---	---	---
61:				
Huevi	---	---	---	---
62:				
Akela	---	---	---	---
Rock outcrop	---	---	---	---

Table 4.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
63:				
Hyder	---	---	---	---
Rock outcrop	---	---	---	---
Rubble land	---	---	---	---
64:				
Indio	---	---	---	---
65:				
Ireteba family	---	---	---	---
Arizo	---	---	---	---
66:				
Kinley	---	---	---	---
67:				
Kinley	---	---	---	---
Poachie	---	---	---	---
68:				
Kofa	---	---	---	---
69:				
Dudleyville	---	---	---	---
Vinton	---	---	---	---
Riverwash	---	---	---	---
70:				
Dudleyville	---	---	---	---
Vinton	---	---	---	---
Riverwash	---	---	---	---
71:				
Lagunita	---	---	---	---
72:				
Lagunita	---	---	---	---
Ripley	---	---	---	---
73:				
Lampshire	---	---	---	---
Rock outcrop	---	---	---	---

Table 4.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
74:				
Lampshire	---	---	---	---
Rock outcrop	---	---	---	---
75:				
Lampshire	---	---	---	---
Rock outcrop	---	---	---	---
76:				
Lostman	---	---	---	---
77:				
Lostman	---	---	---	---
78:				
Lostman	---	---	---	---
Kinley	---	---	---	---
79:				
Marshes	---	---	---	---
80:				
Meloland	---	---	---	---
81:				
Mohon	---	---	---	---
Kinley	---	---	---	---
82:				
Mohon	---	---	---	---
Poachie	---	---	---	---
83:				
Mohon	---	---	---	---
Poachie	---	---	---	---
84:				
Nickel family	---	---	---	---
Topawa family	---	---	---	---
Eba family	---	---	---	---
85:				
Orwash family	---	---	---	---
86:				
Orwash family	---	---	---	---

Table 4.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
87:				
Penthouse	---	---	---	---
Gonzales	---	---	---	---
88:				
Poachie	---	---	---	---
89:				
Poachie	---	---	---	---
90:				
Quilotosa	---	---	---	---
Rock outcrop	---	---	---	---
91:				
Razorback	---	---	---	---
92:				
Razorback	---	---	---	---
Rock outcrop	---	---	---	---
93:				
Razorback	---	---	---	---
Rock outcrop	---	---	---	---
94:				
Razorback	---	---	---	---
Rock outcrop	---	---	---	---
95:				
Razorback	---	---	---	---
Rock outcrop	---	---	---	---
Rubble land	---	---	---	---
96:				
Razorback	---	---	---	---
Rock outcrop	---	---	---	---
Rubble land	---	---	---	---
97:				
Rillino	---	---	---	---
98:				
Rillino	---	---	---	---
Tres Hermanos	---	---	---	---

Table 4.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
99:				
Ripley	---	---	---	---
100:				
Riverbend family	---	---	---	---
101:				
Riverbend	---	---	---	---
102:				
Riverwash	---	---	---	---
Fluvaquents	---	---	---	---
103:				
Rock outcrop	---	---	---	---
Hyder	---	---	---	---
104:				
Rock outcrop	---	---	---	---
Razorback	---	---	---	---
105:				
Rock outcrop	---	---	---	---
Sunrock	---	---	---	---
106:				
Romero	---	---	---	---
Chiricahua	---	---	---	---
Rock outcrop	---	---	---	---
107:				
Romero	---	---	---	---
Lampshire	---	---	---	---
Rock outcrop	---	---	---	---
108:				
Rositas family	---	---	---	---
Superstition	---	---	---	---
Torriorthents	---	---	---	---

Table 4.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
109:				
Rositas	---	---	---	---
Superstition family	---	---	---	---
Torriorthents	---	---	---	---
110:				
Stagecoach	---	---	---	---
111:				
Stagecoach	---	---	---	---
112:				
Stagecoach	---	---	---	---
113:				
Stagecoach	---	---	---	---
114:				
Stagecoach	---	---	---	---
Topawa family	---	---	---	---
Eba	---	---	---	---
115:				
Stagecoach	---	---	---	---
Topawa family	---	---	---	---
Eba	---	---	---	---
116:				
Sunrock	---	---	---	---
117:				
Sunrock	---	---	---	---
Rock outcrop	---	---	---	---
118:				
Tombstone	---	---	---	---
Caralampi	---	---	---	---
Eloma	---	---	---	---
119:				
Torriorthents	---	---	---	---
120:				
Torriorthents	---	---	---	---

Table 4.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
121:				
Tumarion	---	---	---	---
122:				
Tumarion	---	---	---	---
123:				
Tyro	---	---	---	---
124:				
Tyro	---	---	---	---
125:				
Vekol family	---	---	---	---
126:				
Vekol family	---	---	---	---
127:				
Water	---	---	---	---
128:				
Whitehills	---	---	---	---
129:				
Whitehills	---	---	---	---
130:				
White House family	---	---	---	---
131:				
White House	---	---	---	---
132:				
Wikieup	---	---	---	---
Mutang	---	---	---	---
Rock outcrop	---	---	---	---
133:				
Mutang	---	---	---	---
Wikieup	---	---	---	---
Rock outcrop	---	---	---	---
134:				
Wikieup	---	---	---	---
Rock outcrop	---	---	---	---
135:				
Yahana family	---	---	---	---

Table 4.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
136:				
Tumarion	---	---	---	---
Nickel family	---	---	---	---
137:				
Valena	---	---	---	---
Rock outcrop	---	---	---	---
Carri family	---	---	---	---
138:				
Nodman	---	---	---	---
Rock outcrop	---	---	---	---
139:				
Nodman	---	---	---	---
Romero family	---	---	---	---

Table 5.--Camp Areas, Picnic Areas, and Playgrounds

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Akela	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	0.88	Content of large stones	0.88	Depth to bedrock	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
Rubble land	20	Not rated		Not rated		Not rated	
2:							
Akela	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	0.88	Content of large stones	0.88	Depth to bedrock	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
Rubble land	20	Not rated		Not rated		Not rated	
3:							
Alko family	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
		Content of large stones	0.18	Content of large stones	0.18	Slope	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4:							
Alko family---------	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
		Content of large stones	0.18	Content of large stones	0.18	Slope	1.00
5:							
Amole----------	75	Not limited		Not limited		Not limited	
6:							
Amole----------	75	Not limited		Not limited		Not limited	
7:							
Anthony----------	45	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
Dudleyville---------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Gravel content	1.00	Gravel content	1.00
		Gravel content	1.00	Too sandy	0.79	Flooding	1.00
		Too sandy	0.79	Flooding	0.40	Too sandy	0.79
8:							
Aquarius----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
		Restricted permeability	0.45	Restricted permeability	0.45	Gravel content	1.00
Akela----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.98	Content of large stones	0.98	Too Stony	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
9:							
Arizo----------	40	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.50	Gravel content	1.00
		Gravel content	0.50	Flooding	0.40	Flooding	1.00
Franconia----------	30	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
Riverwash----------	20	Not rated		Not rated		Not rated	
10:							
Arizo----------	40	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.50	Gravel content	1.00
		Gravel content	0.50	Flooding	0.40	Flooding	1.00
Franconia----------	30	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
Riverwash----------	20	Not rated		Not rated		Not rated	
11:							
Bartmus----------	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to bedrock	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to cemented pan	1.00
12:							
Bonita family-------	85	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.84	Content of large stones	0.84	Content of large stones	1.00
		Restricted permeability	0.39	Restricted permeability	0.39	Slope	1.00
						Restricted permeability	0.39

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
13:							
Bonita family-------	60	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.84	Content of large stones	0.84	Content of large stones	1.00
		Slope	0.84	Slope	0.84	Slope	1.00
		Restricted permeability	0.39	Restricted permeability	0.39	Restricted permeability	0.39
Gonzales----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Dusty	0.50	Dusty	0.50	Depth to bedrock	1.00
14:							
Brazito family------	75	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
15:							
Bucklebar----------	80	Not limited		Not limited		Not limited	
16:							
Cacique family------	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Slope	0.50
		Depth to cemented pan	0.10	Depth to cemented pan	0.10	Dusty	0.50
17:							
Castaneda----------	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Slope	0.50
		Depth to cemented pan	0.29	Depth to cemented pan	0.29	Dusty	0.50

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18:							
Castaneda----------	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Slope	0.50
		Depth to cemented pan	0.29	Depth to cemented pan	0.29	Dusty	0.50
19:							
Carrizo family------	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Gravel content	1.00	Gravel content	1.00
		Gravel content	1.00	Flooding	0.40	Flooding	1.00
		Too sandy	0.30	Too sandy	0.30	Too sandy	0.30
20:							
Carrizo family------	65	Very limited		Very limited		Very limited	
		Flooding	1.00	Gravel content	1.00	Gravel content	1.00
		Gravel content	1.00	Flooding	0.40	Flooding	1.00
		Too sandy	0.30	Too sandy	0.30	Too sandy	0.30
Riverwash----------	20	Not rated		Not rated		Not rated	
21:							
Carrizo----------	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Gravel content	1.00	Gravel content	1.00
		Gravel content	1.00	Too Stony	0.76	Slope	1.00
		Too Stony	0.76	Too sandy	0.30	Too Stony	0.76
Riverwash----------	15	Not rated		Not rated		Not rated	
22:							
Carrizo----------	65	Very limited		Very limited		Very limited	
		Flooding	1.00	Too sandy	1.00	Too sandy	1.00
		Too sandy	1.00	Flooding	0.40	Flooding	1.00
		Content of large stones	0.18	Content of large stones	0.18	Content of large stones	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23:							
Cave----------	75	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
		Gravel content	0.41	Gravel content	0.41	Gravel content	1.00
24:							
Cave----------	75	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
		Gravel content	0.41	Gravel content	0.41	Gravel content	1.00
25:							
Cellar----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
26:							
Cellar----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
27:							
Cellar----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27:							
Topock----------	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
28:							
Cherioni----------	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to bedrock	1.00
		Content of large stones	0.54	Content of large stones	0.54	Depth to cemented pan	1.00
29:							
Chuckawalla---------	65	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Dusty	0.50
Riverbend----------	25	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.65	Gravel content	0.65	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
		Content of large stones	0.01	Content of large stones	0.01	Content of large stones	0.99
30:							
Chuckawalla family--	65	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Dusty	0.50
Riverbend family----	25	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31:							
Cipriano	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Content of large stones	1.00
		Content of large stones	0.77	Content of large stones	0.77	Depth to cemented pan	1.00
		Too Stony	0.53	Too Stony	0.53	Slope	1.00
32:							
Cline	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to bedrock	1.00
		Gravel content	0.99	Gravel content	0.99	Depth to cemented pan	1.00
33:							
Cline	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to bedrock	1.00
		Gravel content	0.99	Gravel content	0.99	Depth to cemented pan	1.00
34:							
Continental	50	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Slope	1.00
						Restricted permeability	0.94
Tres Hermanos	25	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Slope	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.15

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35:							
Continental---------	50	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Slope	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.94
Tres Hermanos-------	25	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Slope	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.15
36:							
Continental---------	50	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Slope	1.00
						Restricted permeability	0.94
Rillino----------	35	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	0.16	Slope	0.16	Slope	1.00
37:							
Continental---------	50	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Slope	1.00
						Restricted permeability	0.94
Rillino----------	35	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
38:							
Coolidge----------	40	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
						Slope	0.12
Denure----------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Too sandy	0.79
						Slope	0.50
						Gravel content	0.06
39:							
Coolidge family-----	40	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
		Gravel content	0.50	Gravel content	0.50	Slope	0.50
						Dusty	0.50
Denure family-------	35	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Too sandy	0.36	Too sandy	0.36	Slope	0.50
						Too sandy	0.36
40:							
Courthouse family---	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
41:							
Courthouse family---	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	0.61	Content of large stones	0.61	Depth to bedrock	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
41:							
Rock outcrop--------	30	Not rated		Not rated		Not rated	
Wagonbow----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Content of large stones	0.71	Content of large stones	0.71	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Too Stony	0.53
42:							
Far----------	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
43:							
Dutchflat----------	80	Not limited		Not limited		Not limited	
44:							
Dutchflat----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.15	Restricted permeability	0.15	Restricted permeability	0.15
		Too sandy	0.01	Too sandy	0.01	Gravel content	0.06
						Too sandy	0.01
45:							
Gadsden----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Salinity	0.88	Salinity	0.88	Salinity	0.88
		Too clayey	0.50	Too clayey	0.50	Too clayey	0.50
		Restricted permeability	0.39	Restricted permeability	0.39	Restricted permeability	0.39

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
46:							
Gila	50	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Dusty	0.50	Flooding	0.60
		Dusty	0.50			Dusty	0.50
Glendale	30	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
47:							
Gila	50	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Dusty	0.50	Flooding	0.60
		Dusty	0.50	Restricted permeability	0.39	Dusty	0.50
		Restricted permeability	0.39			Restricted permeability	0.39
Glendale	30	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
48:							
Goldroad	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
49:							
Gonzales	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Restricted permeability	0.39	Restricted permeability	0.39	Depth to bedrock	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Gravel content	0.68	Gravel content	0.68	Depth to cemented pan	1.00
						Slope	1.00
51:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Gravel content	0.68	Gravel content	0.68	Depth to cemented pan	1.00
						Slope	1.00
52:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.68	Gravel content	0.68	Depth to cemented pan	1.00
53:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.68	Gravel content	0.68	Depth to cemented pan	1.00
54:							
Graham----------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Too Stony	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54:							
Arivaca----------	25	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Restricted permeability	0.39	Restricted permeability	0.39	Gravel content	1.00
		Content of large stones	0.32	Content of large stones	0.32	Slope	1.00
55:							
Graham----------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Too Stony	1.00	Too Stony	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
56:							
Gunsight----------	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Dusty	0.50
57:							
Gunsight----------	85	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Content of large stones	0.32
58:							
Hassell family------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
		Restricted permeability	0.39	Restricted permeability	0.39	Depth to bedrock	0.42

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
58:							
Lampshire----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
59:							
Holtville----------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Salinity	0.88	Salinity	0.88	Salinity	0.88
		Too clayey	0.50	Too clayey	0.50	Too clayey	0.50
		Restricted permeability	0.41	Restricted permeability	0.41	Restricted permeability	0.41
60:							
Huevi----------	75	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
		Gravel content	0.41	Gravel content	0.41	Slope	1.00
		Slope	0.04	Slope	0.04	Dusty	0.50
61:							
Huevi----------	85	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
62:							
Akela----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63:							
Hyder	50	Very limited		Very limited		Very limited	
		Slope	1.00	Content of large stones	1.00	Content of large stones	1.00
		Content of large stones	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
Rubble land	20	Not rated		Not rated		Not rated	
64:							
Indio	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Salinity	0.88	Salinity	0.88	Salinity	0.88
		Dusty	0.50	Dusty	0.50	Dusty	0.50
65:							
Ireteba family	45	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.50	Gravel content	1.00
		Gravel content	0.50				
Arizo	30	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Gravel content	0.50	Gravel content	1.00
		Gravel content	0.50	Flooding	0.40	Flooding	1.00
66:							
Kinley	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Too sandy	0.79	Too sandy	0.79	Slope	1.00
		Gravel content	0.50	Gravel content	0.50	Too sandy	0.79
67:							
Kinley	50	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67:							
Poachie----------	35	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Slope	0.88
						Restricted permeability	0.15
68:							
Kofa----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Salinity	0.88	Salinity	0.88	Salinity	0.88
		Too clayey	0.50	Too clayey	0.50	Too clayey	0.50
		Restricted permeability	0.39	Restricted permeability	0.39	Restricted permeability	0.39
69:							
Dudleyville---------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Gravel content	1.00	Gravel content	1.00
		Gravel content	1.00	Too sandy	0.79	Flooding	1.00
		Too sandy	0.79	Flooding	0.40	Too sandy	0.79
Vinton----------	30	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
Riverwash----------	20	Not rated		Not rated		Not rated	
70:							
Dudleyville---------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Gravel content	1.00	Gravel content	1.00
		Gravel content	1.00	Too sandy	0.79	Flooding	1.00
		Too sandy	0.79	Flooding	0.40	Too sandy	0.79
Vinton----------	30	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
Riverwash----------	20	Not rated		Not rated		Not rated	

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
71:							
Lagunita----------	85	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Gravel content	0.06
72:							
Lagunita----------	60	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
Ripley----------	25	Very limited		Very limited		Very limited	
		Salinity	1.00	Salinity	1.00	Salinity	1.00
		Too sandy	0.01	Too sandy	0.01	Gravel content	0.06
						Too sandy	0.01
73:							
Lampshire----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	0.46	Gravel content	0.46	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
74:							
Lampshire----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
75:							
Lampshire----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	0.82	Content of large stones	0.82	Depth to bedrock	1.00
Rock outcrop--------	40	Not rated		Not rated		Not rated	

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76:							
Lostman----------	80	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.32	Gravel content	0.32	Gravel content	1.00
						Slope	0.12
77:							
Lostman----------	80	Not limited		Not limited		Somewhat limited	
						Gravel content	0.06
78:							
Lostman----------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.50
						Gravel content	0.06
Kinley----------	35	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
						Slope	0.50
79:							
Marshes----------	100	Not rated		Not rated		Not rated	
80:							
Meloland----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Salinity	1.00	Salinity	1.00
		Salinity	1.00	Dusty	0.50	Flooding	0.60
		Dusty	0.50	Restricted permeability	0.41	Dusty	0.50
81:							
Mohon----------	50	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.94	Restricted permeability	0.94	Gravel content	1.00
		Too sandy	0.79	Too sandy	0.79	Slope	1.00
		Gravel content	0.41	Gravel content	0.41	Restricted permeability	0.94
Kinley----------	35	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
		Slope	0.16	Slope	0.16	Slope	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
82:							
Mohon	50	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.94	Restricted permeability	0.94	Content of large stones	1.00
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
		Content of large stones	0.32	Content of large stones	0.32	Slope	1.00
Poachie	25	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Slope	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.15
83:							
Mohon	50	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Slope	1.00
						Restricted permeability	0.94
Poachie	25	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Slope	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.15
84:							
Nickel family	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Too sandy	0.30	Too sandy	0.30	Too sandy	0.30

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
84:							
Topawa family-------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Too sandy	0.72	Too sandy	0.72	Too sandy	0.72
Eba family----------	25	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Restricted permeability	0.94
85:							
Orwash family-------	75	Not limited		Not limited		Somewhat limited	
						Gravel content	0.06
86:							
Orwash family-------	75	Not limited		Not limited		Somewhat limited	
						Gravel content	0.06
87:							
Penthouse----------	50	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
		Restricted permeability	0.39	Restricted permeability	0.39	Slope	1.00
		Slope	0.16	Slope	0.16	Gravel content	1.00
Gonzales----------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
88:							
Poachie----------	80	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
		Restricted permeability	0.15	Restricted permeability	0.15	Restricted permeability	0.15
89:							
Poachie----------	80	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
		Restricted permeability	0.15	Restricted permeability	0.15	Restricted permeability	0.15
90:							
Quilotosa----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
91:							
Razorback----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
92:							
Razorback----------	65	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.98	Content of large stones	0.98	Too Stony	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
92:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
93:							
Razorback----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	0.61	Content of large stones	0.61	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
94:							
Razorback----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
95:							
Razorback----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	0.61	Content of large stones	0.61	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
96:							
Razorback----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Content of large stones	0.61	Content of large stones	0.61	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
97:							
Rillino----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	0.50	Gravel content	0.50	Slope	1.00
		Too sandy	0.30	Too sandy	0.30	Too sandy	0.30
98:							
Rillino----------	50	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Tres Hermanos-------	35	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Slope	0.88
						Restricted permeability	0.15
99:							
Ripley----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Salinity	1.00	Salinity	1.00
		Salinity	1.00	Dusty	0.50	Flooding	0.60
		Dusty	0.50			Dusty	0.50

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
100:							
Riverbend family----	75	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.87	Gravel content	0.87	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
		Content of large stones	0.02	Content of large stones	0.02	Content of large stones	0.99
101:							
Riverbend----------	75	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.65	Gravel content	0.65	Gravel content	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
		Content of large stones	0.01	Content of large stones	0.01	Content of large stones	0.99
102:							
Riverwash----------	70	Not rated		Not rated		Not rated	
Fluvaquents---------	20	Not rated		Not rated		Not rated	
103:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Hyder----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Content of large stones	1.00	Content of large stones	1.00
		Content of large stones	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
104:							
Rock outcrop--------	65	Not rated		Not rated		Not rated	
Razorback----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
105:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Sunrock----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
106:							
Romero----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00
		Slope	1.00	Slope	1.00	Content of large stones	1.00
Chiricahua----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
107:							
Romero----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
Lampshire----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	0.46	Gravel content	0.46	Depth to bedrock	1.00
Rock outcrop--------	15	Not rated		Not rated		Not rated	

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
108:							
Rositas family------	40	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Superstition--------	25	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Gravel content	1.00
		Gravel content	0.50	Gravel content	0.50	Too sandy	1.00
						Slope	1.00
Torriorthents-------	25	Not rated		Not rated		Not rated	
109:							
Rositas----------	40	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Superstition family-	25	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	1.00
						Gravel content	0.06
Torriorthents-------	20	Not rated		Not rated		Not rated	
110:							
Stagecoach----------	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Dusty	0.50
111:							
Stagecoach----------	85	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
112:							
Stagecoach----------	80	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Content of large stones	0.03
113:							
Stagecoach----------	80	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Content of large stones	0.03
114:							
Stagecoach----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Too sandy	0.30	Too sandy	0.30	Too sandy	0.30
Topawa family-------	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Content of large stones	0.32
Eba----------	25	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Restricted permeability	0.94
115:							
Stagecoach----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Too sandy	0.30	Too sandy	0.30	Too sandy	0.30

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
115:							
Topawa family-------	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.15	Restricted permeability	0.15	Content of large stones	0.32
Eba----------	25	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Restricted permeability	0.94
116:							
Sunrock----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
117:							
Sunrock----------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
118:							
Tombstone----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Content of large stones	0.88	Content of large stones	0.88	Slope	1.00
		Dusty	0.50	Dusty	0.50	Gravel content	0.97
Caralampi----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Gravel content	1.00	Gravel content	1.00	Slope	1.00
		Too sandy	0.47	Too sandy	0.47	Content of large stones	0.54

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
118:							
Eloma	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.39	Restricted permeability	0.39	Content of large stones	1.00
		Content of large stones	0.18	Content of large stones	0.18	Gravel content	0.99
119:							
Torriorthents	75	Not rated		Not rated		Not rated	
120:							
Torriorthents	75	Not rated		Not rated		Not rated	
121:							
Tumarion	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to bedrock	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Depth to cemented pan	1.00
122:							
Tumarion	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Content of large stones	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	1.00
123:							
Tyro	90	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Too Stony	1.00	Too Stony	1.00	Too Stony	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
124:							
Tyro----------	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Content of large stones	1.00
		Too Stony	0.53	Too Stony	0.53	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	1.00
125:							
Vekol family--------	85	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.94	Restricted permeability	0.94	Gravel content	1.00
		Too sandy	0.79	Too sandy	0.79	Restricted permeability	0.94
		Gravel content	0.50	Gravel content	0.50	Slope	0.88
126:							
Vekol family--------	85	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.94	Restricted permeability	0.94	Gravel content	1.00
		Too sandy	0.79	Too sandy	0.79	Restricted permeability	0.94
		Gravel content	0.50	Gravel content	0.50	Slope	0.88
127:							
Water----------	100	Not rated		Not rated		Not rated	
128:							
Whitehills----------	80	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	0.71	Depth to cemented pan	0.71	Depth to cemented pan	0.71
		Dusty	0.50	Dusty	0.50	Dusty	0.50

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129:							
Whitehills----------	80	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to cemented pan	0.71	Depth to cemented pan	0.71	Slope	1.00
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	0.71
130:							
White House family--	85	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Too sandy	0.79	Too sandy	0.79	Slope	1.00
		Restricted permeability	0.45	Restricted permeability	0.45	Too sandy	0.79
131:							
White House---------	85	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.79	Too sandy	0.79	Gravel content	1.00
		Gravel content	0.41	Gravel content	0.41	Slope	1.00
		Restricted permeability	0.39	Restricted permeability	0.39	Too sandy	0.79
132:							
Wikieup----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Gravel content	0.59	Gravel content	0.59	Content of large stones	1.00
Mutang----------	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
133:							
Mutang	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Restricted permeability	1.00
Wikieup	25	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
134:							
Wikieup	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	
135:							
Yahana family	85	Very limited		Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
		Salinity	1.00	Salinity	1.00	Salinity	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Restricted permeability	0.94
136:							
Tumarion	70	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00

Table 5.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
136:							
Nickel family-------	15	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Content of large stones	1.00	Content of large stones	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Too Stony	1.00
137:							
Valena----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.84	Slope	0.84	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Carri family--------	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
138:							
Nodman----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	0.92	Gravel content	0.92	Depth to bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
139:							
Nodman----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too Stony	0.76	Too Stony	0.76	Gravel content	1.00
Romero family-------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00

Table 6.--Paths, Trails, and Golf Fairways

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Akela	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	0.88	Content of large stones	0.88	Slope	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
Rubble land	20	Not rated		Not rated		Not rated	
2:							
Akela	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	0.88	Content of large stones	0.88	Slope	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
Rubble land	20	Not rated		Not rated		Not rated	
3:							
Alko family	85	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	1.00
		Content of large stones	0.18	Content of large stones	0.18	Droughty	1.00
						Content of large stones	1.00

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4:							
Alko family---------	85	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	1.00
		Content of large stones	0.18	Content of large stones	0.18	Droughty	1.00
						Content of large stones	1.00
5:							
Amole----------	75	Not limited		Not limited		Somewhat limited	
						Droughty	0.68
6:							
Amole----------	75	Not limited		Not limited		Somewhat limited	
						Droughty	0.68
7:							
Anthony----------	45	Not limited		Not limited		Somewhat limited	
						Droughty	0.65
						Gravel content	0.50
Dudleyville---------	30	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.79	Too sandy	0.79	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Gravel content	1.00
						Droughty	0.99
8:							
Aquarius----------	45	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
		Content of large stones	0.32	Content of large stones	0.32	Slope	1.00
		Slope	0.18			Gravel content	0.01

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8:							
Akela----------	30	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.98	Content of large stones	0.98	Content of large stones	1.00
		Dusty	0.50	Dusty	0.50	Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
9:							
Arizo----------	40	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Droughty	1.00
						Gravel content	0.50
Franconia----------	30	Not limited		Not limited		Somewhat limited	
						Droughty	0.68
						Flooding	0.60
Riverwash----------	20	Not rated		Not rated		Not rated	
10:							
Arizo----------	40	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Droughty	1.00
						Gravel content	0.50
Franconia----------	30	Not limited		Not limited		Somewhat limited	
						Droughty	0.68
						Flooding	0.60
Riverwash----------	20	Not rated		Not rated		Not rated	

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
11:							
Bartmus----------	85	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Depth to cemented pan	1.00
						Droughty	1.00
12:							
Bonita family-------	85	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.84	Content of large stones	0.84	Content of large stones	1.00
13:							
Bonita family-------	60	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.84	Content of large stones	0.84	Content of large stones	1.00
						Slope	0.84
Gonzales----------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Dusty	0.50	Depth to bedrock	1.00
		Dusty	0.50	Content of large stones	0.18	Slope	1.00
		Content of large stones	0.18			Content of large stones	1.00
14:							
Brazito family------	75	Very limited		Very limited		Somewhat limited	
		Too sandy	1.00	Too sandy	1.00	Droughty	0.69
						Too sandy	0.50
15:							
Bucklebar----------	80	Not limited		Not limited		Not limited	
16:							
Cacique family------	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	0.10

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17:							
Castaneda----------	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	0.29
						Droughty	0.01
18:							
Castaneda----------	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	0.29
						Droughty	0.01
19:							
Carrizo family------	75	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
		Too sandy	0.30	Too sandy	0.30	Droughty	1.00
						Gravel content	1.00
20:							
Carrizo family------	65	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
		Too sandy	0.30	Too sandy	0.30	Droughty	1.00
						Gravel content	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	
21:							
Carrizo----------	75	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Too Stony	0.76	Too Stony	0.76	Droughty	1.00
		Too sandy	0.30	Too sandy	0.30	Flooding	0.60
Riverwash----------	15	Not rated		Not rated		Not rated	

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22:							
Carrizo----------	65	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Too sandy	1.00
		Content of large stones	0.18	Content of large stones	0.18	Droughty	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	
23:							
Cave----------	75	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Depth to cemented pan	1.00
						Droughty	1.00
						Slope	1.00
24:							
Cave----------	75	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Depth to cemented pan	1.00
						Droughty	1.00
						Slope	1.00
25:							
Cellar----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
26:							
Cellar----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30:							
Chuckawalla family--	65	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Droughty	0.46
						Slope	0.04
Riverbend family----	25	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Droughty	1.00
						Slope	0.04
31:							
Cipriano----------	85	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.77	Content of large stones	0.77	Depth to cemented pan	1.00
		Too Stony	0.53	Too Stony	0.53	Content of large stones	1.00
		Dusty	0.50	Dusty	0.50	Droughty	1.00
32:							
Cline----------	85	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.53	Too Stony	0.53	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	1.00
						Droughty	1.00
33:							
Cline----------	85	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.53	Too Stony	0.53	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Depth to cemented pan	1.00
						Droughty	1.00
34:							
Continental---------	50	Not limited		Not limited		Very limited	
						Gravel content	1.00

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34:							
Tres Hermanos-------	25	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
						Slope	0.04
35:							
Continental---------	50	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Slope	0.04
Tres Hermanos-------	25	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
						Slope	0.04
36:							
Continental---------	50	Not limited		Not limited		Very limited	
						Gravel content	1.00
Rillino----------	35	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Slope	0.16
						Droughty	0.01
37:							
Continental---------	50	Not limited		Not limited		Very limited	
						Gravel content	1.00
Rillino----------	35	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Slope	0.04
						Droughty	0.01
38:							
Coolidge----------	40	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
Denure----------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Droughty	0.07

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39:							
Coolidge family-----	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Dusty	0.50	Dusty	0.50	Gravel content	0.50
						Droughty	0.06
Denure family-------	35	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.36	Too sandy	0.36	Gravel content	1.00
						Droughty	0.48
40:							
Courthouse family---	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
		Content of large stones	0.26	Content of large stones	0.26	Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
41:							
Courthouse family---	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	0.61	Content of large stones	0.61	Slope	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
Rock outcrop--------	30	Not rated		Not rated		Not rated	
Wagonbow----------	20	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.71	Content of large stones	0.71	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Content of large stones	1.00
		Slope	0.50				

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42:							
Far----------	70	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.53	Depth to bedrock	1.00
		Too Stony	0.53	Content of large stones	0.35	Content of large stones	1.00
		Content of large stones	0.35	Slope	0.08	Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
43:							
Dutchflat----------	80	Not limited		Not limited		Not limited	
44:							
Dutchflat----------	80	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.01	Too sandy	0.01		
45:							
Gadsden----------	80	Somewhat limited		Somewhat limited		Very limited	
		Too clayey	0.50	Too clayey	0.50	Too clayey	1.00
						Salinity	0.88
46:							
Gila----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Dusty	0.50	Dusty	0.50	Flooding	0.60
Glendale----------	30	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
47:							
Gila----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Dusty	0.50	Dusty	0.50	Flooding	0.60
Glendale----------	30	Not limited		Not limited		Somewhat limited	
						Flooding	0.60

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
48:							
Goldroad----------	60	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
49:							
Gonzales----------	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Content of large stones	0.18	Depth to bedrock	1.00
		Content of large stones	0.18			Slope	1.00
						Content of large stones	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
50:							
Goodsprings family--	75	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Droughty	0.99
						Gravel content	0.68
51:							
Goodsprings family--	75	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Droughty	0.99
						Gravel content	0.68
52:							
Goodsprings family--	75	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Depth to cemented pan	1.00
						Slope	1.00
						Droughty	0.99

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
53:							
Goodsprings family--	75	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Depth to cemented pan	1.00
						Slope	1.00
						Droughty	0.99
54:							
Graham----------	60	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.54	Content of large stones	0.54	Content of large stones	1.00
		Dusty	0.50	Dusty	0.50	Droughty	0.98
Arivaca----------	25	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Content of large stones	0.32	Content of large stones	0.32	Depth to bedrock	0.42
						Slope	0.04
55:							
Graham----------	60	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Slope	1.00	Content of large stones	0.54	Content of large stones	1.00
		Content of large stones	0.54	Dusty	0.50	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
56:							
Gunsight----------	75	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
						Slope	0.04

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
57:							
Gunsight----------	85	Very limited		Not limited		Very limited	
		Slope	1.00			Gravel content	1.00
						Slope	1.00
						Content of large stones	0.32
58:							
Hassell family------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Dusty	0.50	Slope	1.00
		Dusty	0.50			Depth to bedrock	0.42
Lampshire----------	25	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Dusty	0.50	Depth to bedrock	1.00
		Dusty	0.50			Slope	1.00
						Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
59:							
Holtville----------	75	Somewhat limited		Somewhat limited		Very limited	
		Too clayey	0.50	Too clayey	0.50	Too clayey	1.00
						Salinity	0.88
60:							
Huevi----------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Dusty	0.50	Dusty	0.50	Droughty	0.98
						Gravel content	0.41
						Slope	0.04
61:							
Huevi----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.92	Dusty	0.50	Gravel content	1.00
		Dusty	0.50			Slope	1.00
						Droughty	0.98

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
62:							
Akela	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
63:							
Hyder	50	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
Rubble land	20	Not rated		Not rated		Not rated	
64:							
Indio	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Dusty	0.50	Dusty	0.50	Salinity	0.88
65:							
Ireteba family	45	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
						Droughty	0.04
Arizo	30	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Droughty	1.00
						Gravel content	0.50
66:							
Kinley	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too sandy	0.79	Slope	1.00
		Too sandy	0.79			Gravel content	0.50

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67:							
Kinley----------	50	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
						Slope	0.04
Poachie----------	35	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
68:							
Kofa----------	85	Somewhat limited		Somewhat limited		Very limited	
		Too clayey	0.50	Too clayey	0.50	Too clayey	1.00
						Salinity	0.88
69:							
Dudleyville---------	40	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.79	Too sandy	0.79	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Gravel content	1.00
						Droughty	0.99
Vinton----------	30	Not limited		Not limited		Somewhat limited	
						Droughty	0.86
						Flooding	0.60
Riverwash----------	20	Not rated		Not rated		Not rated	
70:							
Dudleyville---------	40	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.79	Too sandy	0.79	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Gravel content	1.00
						Droughty	0.99
Vinton----------	30	Not limited		Not limited		Somewhat limited	
						Droughty	0.86
						Flooding	0.60
Riverwash----------	20	Not rated		Not rated		Not rated	

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
71:							
Lagunita----------	85	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Droughty	0.99
						Too sandy	0.50
72:							
Lagunita----------	60	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Droughty	0.99
Ripley----------	25	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.01	Too sandy	0.01	Salinity	1.00
73:							
Lampshire----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
74:							
Lampshire----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
						Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
75:							
Lampshire----------	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.96	Depth to bedrock	1.00
		Content of large stones	0.82	Content of large stones	0.82	Slope	1.00
		Too Stony	0.53	Too Stony	0.53	Content of large stones	1.00
Rock outcrop--------	40	Not rated		Not rated		Not rated	

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76:							
Lostman----------	80	Not limited		Not limited		Somewhat limited	
						Droughty	0.46
						Gravel content	0.32
77:							
Lostman----------	80	Not limited		Not limited		Not limited	
78:							
Lostman----------	40	Not limited		Not limited		Not limited	
Kinley----------	35	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
79:							
Marshes----------	100	Not rated		Not rated		Not rated	
80:							
Meloland----------	85	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Salinity	1.00
						Flooding	0.60
81:							
Mohon----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Gravel content	0.41
Kinley----------	35	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
						Slope	0.16
82:							
Mohon----------	50	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
		Content of large stones	0.32	Content of large stones	0.32	Slope	0.04
						Gravel content	0.02

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
82:							
Poachie----------	25	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
						Slope	0.04
83:							
Mohon----------	50	Not limited		Not limited		Very limited	
						Gravel content	1.00
Poachie----------	25	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
						Slope	0.04
84:							
Nickel family-------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
		Too sandy	0.30	Too sandy	0.30	Gravel content	1.00
						Droughty	0.41
Topawa family-------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too sandy	0.72	Slope	1.00
		Too sandy	0.72	Slope	0.56	Gravel content	1.00
						Droughty	0.80
Eba family----------	25	Somewhat limited		Not limited		Very limited	
		Slope	0.18			Gravel content	1.00
						Slope	1.00
						Droughty	0.63
85:							
Orwash family-------	75	Not limited		Not limited		Somewhat limited	
						Droughty	0.55
86:							
Orwash family-------	75	Not limited		Not limited		Somewhat limited	
						Droughty	0.55

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
87:							
Penthouse	50	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
		Content of large stones	0.05	Content of large stones	0.05	Slope	0.16
						Gravel content	0.01
Gonzales	25	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Depth to bedrock	1.00
		Content of large stones	0.18	Content of large stones	0.18	Content of large stones	1.00
						Slope	1.00
88:							
Poachie	80	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
89:							
Poachie	80	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
90:							
Quilotosa	60	Very limited		Very limited		Very limited	
		Slope	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Gravel content	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
91:							
Razorback	90	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
						Gravel content	1.00

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
92:							
Razorback----------	65	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Content of large stones	0.98	Content of large stones	0.98	Content of large stones	1.00
		Dusty	0.50	Dusty	0.50	Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
93:							
Razorback----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	0.61	Content of large stones	0.61	Slope	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
94:							
Razorback----------	60	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.98	Content of large stones	0.98	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
95:							
Razorback----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	0.61	Content of large stones	0.61	Slope	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
96:							
Razorback----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Content of large stones	0.61	Content of large stones	0.61	Slope	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
97:							
Rillino----------	75	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too sandy	0.30	Slope	1.00
		Too sandy	0.30			Gravel content	0.50
						Droughty	0.01
98:							
Rillino----------	50	Not limited		Not limited		Very limited	
						Gravel content	1.00
						Slope	0.04
						Droughty	0.01
Tres Hermanos-------	35	Not limited		Not limited		Somewhat limited	
						Gravel content	0.50
99:							
Ripley----------	85	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Salinity	1.00
						Flooding	0.60
100:							
Riverbend family----	75	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.02	Content of large stones	0.02	Droughty	1.00
						Content of large stones	0.99
						Gravel content	0.87

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101:							
Riverbend----------	75	Somewhat limited		Somewhat limited		Very limited	
		Content of large stones	0.01	Content of large stones	0.01	Droughty	1.00
						Content of large stones	0.99
						Gravel content	0.65
102:							
Riverwash----------	70	Not rated		Not rated		Not rated	
Fluvaquents---------	20	Not rated		Not rated		Not rated	
103:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Hyder----------	40	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Depth to bedrock	1.00
		Slope	1.00	Too Stony	1.00	Slope	1.00
		Too Stony	1.00	Slope	1.00	Content of large stones	1.00
104:							
Rock outcrop--------	65	Not rated		Not rated		Not rated	
Razorback----------	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
105:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Sunrock----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	1.00	Slope	1.00
		Gravel content	1.00	Gravel content	1.00	Gravel content	1.00

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
106:							
Romero----------	45	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Slope	0.50	Content of large stones	0.26	Droughty	1.00
		Content of large stones	0.26			Content of large stones	1.00
Chiricahua----------	30	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Depth to bedrock	1.00
						Droughty	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
107:							
Romero----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Too Stony	1.00	Depth to bedrock	1.00
		Too Stony	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.61	Content of large stones	0.61	Content of large stones	1.00
Lampshire----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00
Rock outcrop--------	15	Not rated		Not rated		Not rated	
108:							
Rositas family------	40	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.18			Droughty	0.81
Superstition--------	25	Very limited		Very limited		Somewhat limited	
		Too sandy	1.00	Too sandy	1.00	Droughty	0.93
						Gravel content	0.50

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
108:							
Torriorthents-------	25	Not rated		Not rated		Not rated	
109:							
Rositas----------	40	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Slope	1.00
		Slope	0.18			Droughty	0.69
						Too sandy	0.50
Superstition family-	25	Very limited		Very limited		Somewhat limited	
		Too sandy	1.00	Too sandy	1.00	Droughty	0.92
Torriorthents-------	20	Not rated		Not rated		Not rated	
110:							
Stagecoach----------	75	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
						Droughty	0.07
						Slope	0.04
111:							
Stagecoach----------	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Dusty	0.50	Gravel content	1.00
		Dusty	0.50			Slope	1.00
						Droughty	0.07
112:							
Stagecoach----------	80	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Gravel content	1.00
						Slope	1.00
						Droughty	0.09
113:							
Stagecoach----------	80	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Gravel content	1.00
						Slope	1.00
						Droughty	0.09

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
114:							
Stagecoach----------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
		Too sandy	0.30	Too sandy	0.30	Gravel content	1.00
						Droughty	0.11
Topawa family-------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Gravel content	1.00
						Slope	1.00
						Droughty	0.98
Eba----------	25	Somewhat limited		Not limited		Very limited	
		Slope	0.18			Gravel content	1.00
						Slope	1.00
						Droughty	0.99
115:							
Stagecoach----------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
		Too sandy	0.30	Too sandy	0.30	Gravel content	1.00
						Droughty	0.11
Topawa family-------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Gravel content	1.00
						Slope	1.00
						Droughty	0.98
Eba----------	25	Somewhat limited		Not limited		Very limited	
		Slope	0.18			Gravel content	1.00
						Slope	1.00
						Droughty	0.99
116:							
Sunrock----------	90	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
						Gravel content	1.00

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
117:							
Sunrock----------	70	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
118:							
Tombstone----------	35	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Content of large stones	0.88	Slope	1.00
		Content of large stones	0.88	Slope	0.56	Content of large stones	1.00
		Dusty	0.50	Dusty	0.50	Droughty	0.92
Caralampi----------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.56	Slope	1.00
		Too sandy	0.47	Too sandy	0.47	Gravel content	1.00
						Droughty	0.82
Eloma----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.18	Content of large stones	0.18	Content of large stones	1.00
		Content of large stones	0.18			Slope	1.00
						Droughty	0.36
119:							
Torriorthents-------	75	Not rated		Not rated		Not rated	
120:							
Torriorthents-------	75	Not rated		Not rated		Not rated	

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
121:							
Tumarion----------	85	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Depth to bedrock	1.00
		Content of large stones	0.32	Content of large stones	0.32	Depth to cemented pan	1.00
						Content of large stones	1.00
122:							
Tumarion----------	85	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Depth to bedrock	1.00
		Content of large stones	0.32	Content of large stones	0.32	Depth to cemented pan	1.00
						Content of large stones	1.00
123:							
Tyro----------	90	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Depth to cemented pan	1.00
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Slope	0.32			Droughty	1.00
124:							
Tyro----------	85	Somewhat limited		Somewhat limited		Very limited	
		Too Stony	0.53	Too Stony	0.53	Depth to cemented pan	1.00
		Dusty	0.50	Dusty	0.50	Content of large stones	1.00
		Content of large stones	0.32	Content of large stones	0.32	Droughty	1.00
125:							
Vekol family--------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Gravel content	0.50

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
126:							
Vekol family--------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Gravel content	0.50
127:							
Water----------	100	Not rated		Not rated		Not rated	
128:							
Whitehills----------	80	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
						Droughty	0.75
						Depth to cemented pan	0.71
129:							
Whitehills----------	80	Somewhat limited		Somewhat limited		Very limited	
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
						Droughty	0.75
						Depth to cemented pan	0.71
130:							
White House family--	85	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.79	Too sandy	0.79	Gravel content	1.00
						Slope	0.04
						Droughty	0.01
131:							
White House---------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Gravel content	0.41
						Slope	0.04
132:							
Wikieup----------	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Content of large stones	0.14	Depth to bedrock	1.00
		Content of large stones	0.14			Droughty	1.00
						Content of large stones	1.00

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132:							
Mutang----------	30	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Slope	0.50			Gravel content	1.00
						Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
133:							
Mutang----------	55	Somewhat limited		Not limited		Very limited	
		Slope	0.08			Depth to bedrock	1.00
						Slope	1.00
						Droughty	0.98
Wikieup----------	25	Very limited		Very limited		Very limited	
		Gravel content	1.00	Gravel content	1.00	Depth to bedrock	1.00
		Dusty	0.50	Dusty	0.50	Gravel content	1.00
		Slope	0.08			Droughty	1.00
Rock outcrop--------	15	Not rated		Not rated		Not rated	
134:							
Wikieup----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
135:							
Yahana family-------	85	Not limited		Not limited		Very limited	
						Salinity	1.00
						Sodium content	1.00

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
136:							
Tumarion----------	70	Very limited		Very limited		Very limited	
		Content of large stones	1.00	Content of large stones	1.00	Depth to cemented pan	1.00
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Slope	0.82			Droughty	1.00
Nickel family-------	15	Very limited		Very limited		Very limited	
		Too Stony	1.00	Too Stony	1.00	Content of large stones	1.00
		Content of large stones	1.00	Content of large stones	1.00	Slope	1.00
		Slope	0.82	Dusty	0.50	Droughty	0.16
137:							
Valena----------	40	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	1.00
						Slope	0.84
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Carri family--------	15	Not limited		Not limited		Somewhat limited	
						Slope	0.84
138:							
Nodman----------	65	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.22	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 6.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
139:							
Nodman----------	60	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Too Stony	0.76	Depth to bedrock	1.00
		Too Stony	0.76	Slope	0.22	Slope	1.00
						Droughty	1.00
Romero family-------	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Depth to bedrock	1.00
						Slope	1.00
						Droughty	1.00

Table 7.--Dwellings and Small Commercial Buildings

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Akela----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
2:							
Akela----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
3:							
Alko family---------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
4:							
Alko family---------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5:							
Amole----------	75	Not limited		Not limited		Not limited	
6:							
Amole----------	75	Not limited		Not limited		Not limited	
7:							
Anthony----------	45	Not limited		Not limited		Not limited	
Dudleyville---------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
8:							
Aquarius----------	45	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
Akela----------	30	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Slope	0.84	Slope	0.84	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
9:							
Arizo----------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Franconia----------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	
10:							
Arizo----------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10:							
Franconia	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Riverwash	20	Not rated		Not rated		Not rated	
11:							
Bartmus	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
12:							
Bonita family	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
						Slope	0.50
13:							
Bonita family	60	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	0.84	Slope	0.84	Shrink-swell	1.00
Gonzales	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
14:							
Brazito family	75	Not limited		Not limited		Not limited	
15:							
Bucklebar	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16:							
Cacique family------	75	Not limited		Not limited		Not limited	
17:							
Castaneda----------	75	Not limited		Not limited		Not limited	
18:							
Castaneda----------	75	Not limited		Not limited		Not limited	
19:							
Carrizo family------	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
20:							
Carrizo family------	65	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	
21:							
Carrizo----------	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
						Slope	0.50
Riverwash----------	15	Not rated		Not rated		Not rated	
22:							
Carrizo----------	65	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	
23:							
Cave----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24:							
Cave----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
25:							
Cellar----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
26:							
Cellar----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
27:							
Cellar----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Topock----------	30	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.95	Slope	1.00	Depth to hard bedrock	0.95

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
28:							
Cherioni----------	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
29:							
Chuckawalla---------	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Riverbend----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
30:							
Chuckawalla family--	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Riverbend family----	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
31:							
Cipriano----------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
32:							
Cline----------	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33:							
Cline	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
34:							
Continental	50	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00
						Slope	0.50
Tres Hermanos	25	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Slope	0.04	Slope	1.00
		Slope	0.04			Shrink-swell	0.50
35:							
Continental	50	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Tres Hermanos	25	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Slope	0.04	Slope	1.00
		Slope	0.04			Shrink-swell	0.50
36:							
Continental	50	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00
						Slope	0.50
Rillino	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
37:							
Continental	50	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00
						Slope	0.50

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
37:							
Rillino----------	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
38:							
Coolidge----------	40	Not limited		Not limited		Not limited	
Denure----------	35	Not limited		Not limited		Not limited	
39:							
Coolidge family-----	40	Not limited		Not limited		Not limited	
Denure family-------	35	Not limited		Not limited		Not limited	
40:							
Courthouse family---	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
41:							
Courthouse family---	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop--------	30	Not rated		Not rated		Not rated	
Wagonbow----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42:							
Far	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Depth to soft bedrock	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
43:							
Dutchflat	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
44:							
Dutchflat	80	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.50			Shrink-swell	0.50
45:							
Gadsden	80	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
46:							
Gila	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Glendale	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
47:							
Gila	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47:							
Glendale----------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
48:							
Goldroad----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
49:							
Gonzales----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
50:							
Goodsprings family--	75	Not limited		Not limited		Very limited	
						Slope	1.00
51:							
Goodsprings family--	75	Not limited		Not limited		Very limited	
						Slope	1.00
52:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
53:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54:							
Graham----------	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Depth to hard bedrock	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Arivaca----------	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.42	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to hard bedrock	0.42
55:							
Graham----------	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Slope	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
56:							
Gunsight----------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
57:							
Gunsight----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
58:							
Hassell family------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to soft bedrock	0.42		

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
58:							
Lampshire----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
59:							
Holtville----------	75	Very limited		Not limited		Very limited	
		Shrink-swell	1.00			Shrink-swell	1.00
60:							
Huevi----------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
61:							
Huevi----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
62:							
Akela----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
63:							
Hyder----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
64:							
Indio----------	85	Not limited		Not limited		Not limited	
65:							
Ireteba family------	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Arizo----------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
66:							
Kinley----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
67:							
Kinley----------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Poachie----------	35	Not limited		Not limited		Somewhat limited	
						Slope	0.12
68:							
Kofa----------	85	Very limited		Not limited		Very limited	
		Shrink-swell	1.00			Shrink-swell	1.00
69:							
Dudleyville---------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Vinton----------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
70:							
Dudleyville---------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Vinton----------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	
71:							
Lagunita----------	85	Not limited		Not limited		Not limited	
72:							
Lagunita----------	60	Not limited		Not limited		Not limited	
Ripley----------	25	Not limited		Not limited		Not limited	
73:							
Lampshire----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
74:							
Lampshire----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75:							
Lampshire	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	0.98	Content of large stones	0.98	Content of large stones	0.98
Rock outcrop	40	Not rated		Not rated		Not rated	
76:							
Lostman	80	Not limited		Not limited		Not limited	
77:							
Lostman	80	Not limited		Not limited		Not limited	
78:							
Lostman	40	Not limited		Not limited		Not limited	
Kinley	35	Not limited		Not limited		Not limited	
79:							
Marshes	100	Not rated		Not rated		Not rated	
80:							
Meloland	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
81:							
Mohon	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.50
						Shrink-swell	0.50
Kinley	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
82:							
Mohon----------	50	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
Poachie----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
83:							
Mohon----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.50
						Shrink-swell	0.50
Poachie----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
84:							
Nickel family-------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Topawa family-------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Eba family----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
85:							
Orwash family-------	75	Not limited		Not limited		Not limited	
86:							
Orwash family-------	75	Not limited		Not limited		Not limited	
87:							
Penthouse----------	50	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.16	Slope	0.16	Shrink-swell	0.50

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
87:							
Gonzales----------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Shrink-swell	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	1.00	Depth to soft bedrock	1.00	Shrink-swell	1.00
88:							
Poachie----------	80	Not limited		Not limited		Not limited	
89:							
Poachie----------	80	Not limited		Not limited		Not limited	
90:							
Quilotosa----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
91:							
Razorback----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
92:							
Razorback----------	65	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.84	Slope	0.84	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
93:							
Razorback----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
94:							
Razorback----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
95:							
Razorback----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
96:							
Razorback----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
97:							
Rillino	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
98:							
Rillino	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Tres Hermanos	35	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.50			Shrink-swell	0.50
						Slope	0.12
99:							
Ripley	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
100:							
Riverbend family	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
101:							
Riverbend	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
102:							
Riverwash	70	Not rated		Not rated		Not rated	
Fluvaquents	20	Not rated		Not rated		Not rated	
103:							
Rock outcrop	45	Not rated		Not rated		Not rated	
Hyder	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
104:							
Rock outcrop--------	65	Not rated		Not rated		Not rated	
Razorback----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
105:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Sunrock----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
106:							
Romero----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Chiricahua----------	30	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Shrink-swell	1.00	Depth to soft bedrock	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
107:							
Romero	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Lampshire	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
108:							
Rositas family	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Superstition	25	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Torriorthents	25	Not rated		Not rated		Not rated	
109:							
Rositas	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Superstition family	25	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Torriorthents	20	Not rated		Not rated		Not rated	
110:							
Stagecoach	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
111:							
Stagecoach----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
112:							
Stagecoach----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
113:							
Stagecoach----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
114:							
Stagecoach----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Topawa family-------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.02	Content of large stones	0.02	Content of large stones	0.02
Eba----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
115:							
Stagecoach----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Topawa family-------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.02	Content of large stones	0.02	Content of large stones	0.02
Eba----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
116:							
Sunrock----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
117:							
Sunrock----------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
118:							
Tombstone----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Caralampi----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Eloma----------	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
		Content of large stones	0.68	Content of large stones	0.68	Content of large stones	0.68
119:							
Torriorthents-------	75	Not rated		Not rated		Not rated	
120:							
Torriorthents-------	75	Not rated		Not rated		Not rated	

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
121:							
Tumarion----------	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
122:							
Tumarion----------	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
123:							
Tyro----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
124:							
Tyro----------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
125:							
Vekol family--------	85	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.50			Shrink-swell	0.50
						Slope	0.12
126:							
Vekol family--------	85	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.50			Shrink-swell	0.50
						Slope	0.12
127:							
Water----------	100	Not rated		Not rated		Not rated	
128:							
Whitehills----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129:							
Whitehills----------	80	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
130:							
White House family--	85	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Slope	0.04	Shrink-swell	1.00
		Slope	0.04			Slope	1.00
131:							
White House---------	85	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
132:							
Wikieup----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Mutang----------	30	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.97	Slope	1.00	Depth to hard bedrock	0.97
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
133:							
Mutang----------	55	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Shrink-swell	1.00	Depth to soft bedrock	1.00
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
Wikieup----------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Rock outcrop--------	15	Not rated		Not rated		Not rated	
134:							
Wikieup----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
135:							
Yahana family-------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
136:							
Tumarion----------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Content of large stones	0.84	Slope	1.00	Content of large stones	0.84
		Depth to hard bedrock	0.79	Content of large stones	0.84	Depth to hard bedrock	0.79

Table 7.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
136:							
Nickel family-------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.90	Content of large stones	0.90	Content of large stones	0.90
137:							
Valena----------	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.84	Slope	0.84	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Carri family--------	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
138:							
Nodman----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
Rock outcrop--------	20	Not rated		Not rated		Not rated	
139:							
Nodman----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
Romero family-------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to hard bedrock	0.99	Depth to soft bedrock	1.00	Depth to hard bedrock	0.99

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Akela----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
2:							
Akela----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
3:							
Alko family---------	85	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Depth to cemented pan	1.00
				Slope	0.04	Droughty	1.00
						Content of large stones	1.00

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4:							
Alko family---------	85	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Depth to cemented pan	1.00
				Slope	0.04	Droughty	1.00
						Content of large stones	1.00
5:							
Amole----------	75	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.68
6:							
Amole----------	75	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.68
7:							
Anthony----------	45	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.65
						Gravel content	0.50
Dudleyville---------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Gravel content	1.00
						Droughty	0.99
8:							
Aquarius----------	45	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Cutbanks cave	1.00	Content of large stones	1.00
		Low strength	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.50	Gravel content	0.01
Akela----------	30	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
		Slope	0.84	Slope	0.84	Droughty	1.00

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
9:							
Arizo----------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Droughty	1.00
						Gravel content	0.50
Franconia----------	30	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Droughty	0.68
				Flooding	0.60	Flooding	0.60
Riverwash----------	20	Not rated		Not rated		Not rated	
10:							
Arizo----------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Droughty	1.00
						Gravel content	0.50
Franconia----------	30	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Droughty	0.68
				Flooding	0.60	Flooding	0.60
Riverwash----------	20	Not rated		Not rated		Not rated	
11:							
Bartmus----------	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Depth to cemented pan	1.00
		Slope	0.04	Slope	0.04	Droughty	1.00

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
12:							
Bonita family-------	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Cutbanks cave	1.00	Content of large stones	1.00
				Too clayey	0.50		
13:							
Bonita family-------	60	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Cutbanks cave	1.00	Content of large stones	1.00
		Slope	0.84	Slope	0.84	Slope	0.84
				Too clayey	0.50		
Gonzales----------	30	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Content of large stones	1.00
14:							
Brazito family------	75	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.69
						Too sandy	0.50
15:							
Bucklebar----------	80	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Cutbanks cave	0.10		
16:							
Cacique family------	75	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Gravel content	1.00
						Depth to cemented pan	0.10

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17:							
Castaneda----------	75	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Gravel content	1.00
						Depth to cemented pan	0.29
						Droughty	0.01
18:							
Castaneda----------	75	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Gravel content	1.00
						Depth to cemented pan	0.29
						Droughty	0.01
19:							
Carrizo family------	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Droughty	1.00
						Gravel content	1.00
20:							
Carrizo family------	65	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Droughty	1.00
						Gravel content	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	
21:							
Carrizo----------	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Gravel content	1.00
				Flooding	0.60	Droughty	1.00
						Flooding	0.60
Riverwash----------	15	Not rated		Not rated		Not rated	

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22:							
Carrizo----------	65	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Too sandy	1.00
						Droughty	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	
23:							
Cave----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Depth to cemented pan	1.00
				Slope	1.00	Droughty	1.00
						Slope	1.00
24:							
Cave----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Depth to cemented pan	1.00
				Slope	1.00	Droughty	1.00
						Slope	1.00
25:							
Cellar----------	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Droughty	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
26:							
Cellar	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Droughty	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	
27:							
Cellar	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Droughty	1.00
		Slope	1.00	Slope	1.00	Gravel content	1.00
Topock	30	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Gravel content	1.00
		Depth to hard bedrock	0.95	Slope	1.00	Droughty	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
28:							
Cherioni	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to thin cemented pan	1.00	Depth to thin cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Cutbanks cave	0.10	Content of large stones	1.00

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29:							
Chuckawalla---------	65	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	1.00
				Slope	0.04	Droughty	0.82
						Content of large stones	0.08
Riverbend----------	25	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	1.00
				Slope	0.04	Content of large stones	0.99
						Gravel content	0.65
30:							
Chuckawalla family--	65	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	1.00
				Slope	0.04	Droughty	0.46
						Slope	0.04
Riverbend family----	25	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	1.00
				Slope	0.04	Droughty	1.00
						Slope	0.04
31:							
Cipriano----------	85	Not limited		Somewhat limited		Very limited	
				Cutbanks cave	0.10	Depth to cemented pan	1.00
						Content of large stones	1.00
						Droughty	1.00
32:							
Cline----------	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Depth to cemented pan	1.00
		Slope	0.04	Slope	0.04	Droughty	1.00

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33:							
Cline----------	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Depth to cemented pan	1.00
		Slope	0.04	Slope	0.04	Droughty	1.00
34:							
Continental---------	50	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Too clayey	0.12	Gravel content	1.00
				Cutbanks cave	0.10		
Tres Hermanos-------	25	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	0.50
		Slope	0.04	Slope	0.04	Slope	0.04
35:							
Continental---------	50	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Too clayey	0.12	Gravel content	1.00
		Slope	0.04	Cutbanks cave	0.10	Slope	0.04
				Slope	0.04		
Tres Hermanos-------	25	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	0.50
		Slope	0.04	Slope	0.04	Slope	0.04
36:							
Continental---------	50	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Too clayey	0.12	Gravel content	1.00
				Cutbanks cave	0.10		
Rillino----------	35	Somewhat limited		Very limited		Very limited	
		Slope	0.16	Cutbanks cave	1.00	Gravel content	1.00
				Slope	0.16	Slope	0.16
						Droughty	0.01

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
37:							
Continental---------	50	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Too clayey	0.12	Gravel content	1.00
				Cutbanks cave	0.10		
Rillino----------	35	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	1.00
				Slope	0.04	Slope	0.04
						Droughty	0.01
38:							
Coolidge----------	40	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Gravel content	0.50
Denure----------	35	Not limited		Somewhat limited		Somewhat limited	
				Cutbanks cave	0.10	Droughty	0.07
39:							
Coolidge family-----	40	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Gravel content	0.50
						Droughty	0.06
Denure family-------	35	Not limited		Somewhat limited		Very limited	
				Cutbanks cave	0.10	Gravel content	1.00
						Droughty	0.48
40:							
Courthouse family---	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
41:							
Courthouse family---	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Content of large stones	1.00
Rock outcrop--------	30	Not rated		Not rated		Not rated	
Wagonbow----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Cutbanks cave	1.00	Content of large stones	1.00
				Too clayey	0.50		
42:							
Far----------	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Content of large stones	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
43:							
Dutchflat----------	80	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Cutbanks cave	0.10		
44:							
Dutchflat----------	80	Somewhat limited		Very limited		Not limited	
		Shrink-swell	0.50	Cutbanks cave	1.00		
45:							
Gadsden----------	80	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Too clayey	0.12	Too clayey	1.00
				Cutbanks cave	0.10	Salinity	0.88

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
46:							
Gila	50	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
		Shrink-swell	0.50	Flooding	0.60		
Glendale	30	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
		Shrink-swell	0.50	Flooding	0.60		
47:							
Gila	50	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
		Shrink-swell	0.50	Flooding	0.60		
Glendale	30	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
		Shrink-swell	0.50	Flooding	0.60		
48:							
Goldroad	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Gravel content	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
49:							
Gonzales	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Content of large stones	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50:							
Goodsprings family--	75	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Depth to cemented pan	1.00
						Droughty	0.99
						Gravel content	0.68
51:							
Goodsprings family--	75	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Depth to cemented pan	1.00
						Droughty	0.99
						Gravel content	0.68
52:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Depth to cemented pan	1.00
				Slope	1.00	Slope	1.00
						Droughty	0.99
53:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Depth to cemented pan	1.00
				Slope	1.00	Slope	1.00
						Droughty	0.99
54:							
Graham----------	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	1.00	Cutbanks cave	0.10	Content of large stones	1.00
		Low strength	1.00	Slope	0.04	Droughty	0.98

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54:							
Arivaca----------	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Content of large stones	1.00
		Low strength	1.00	Too clayey	0.50	Depth to bedrock	0.42
		Depth to hard bedrock	0.42	Cutbanks cave	0.10	Slope	0.04
55:							
Graham----------	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	1.00	Slope	1.00	Content of large stones	1.00
		Slope	1.00	Cutbanks cave	0.10	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
56:							
Gunsight----------	75	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	1.00
				Slope	0.04	Slope	0.04
57:							
Gunsight----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
				Slope	1.00	Slope	1.00
						Content of large stones	0.32
58:							
Hassell family------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
		Low strength	1.00	Slope	1.00	Depth to bedrock	0.42
		Shrink-swell	0.50	Too clayey	0.50		

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
58:							
Lampshire----------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
59:							
Holtville----------	75	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Cutbanks cave	1.00	Too clayey	1.00
				Too clayey	0.12	Salinity	0.88
60:							
Huevi----------	75	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	0.98
				Slope	0.04	Gravel content	0.41
						Slope	0.04
61:							
Huevi----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
				Slope	1.00	Slope	1.00
						Droughty	0.98
62:							
Akela----------	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
63:							
Hyder	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
Rubble land	20	Not rated		Not rated		Not rated	
64:							
Indio	85	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Salinity	0.88
				Too clayey	0.12		
65:							
Ireteba family	45	Somewhat limited		Very limited		Somewhat limited	
		Flooding	0.40	Cutbanks cave	1.00	Gravel content	0.50
						Droughty	0.04
Arizo	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Droughty	1.00
						Gravel content	0.50
66:							
Kinley	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	0.50
67:							
Kinley	50	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	0.50
				Slope	0.04	Slope	0.04
Poachie	35	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Gravel content	0.50

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68:							
Kofa	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Cutbanks cave	1.00	Too clayey	1.00
				Too clayey	0.72	Salinity	0.88
69:							
Dudleyville	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Gravel content	1.00
						Droughty	0.99
Vinton	30	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Droughty	0.86
				Flooding	0.60	Flooding	0.60
Riverwash	20	Not rated		Not rated		Not rated	
70:							
Dudleyville	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
				Flooding	0.80	Gravel content	1.00
						Droughty	0.99
Vinton	30	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Droughty	0.86
				Flooding	0.60	Flooding	0.60
Riverwash	20	Not rated		Not rated		Not rated	
71:							
Lagunita	85	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Droughty	0.99
						Too sandy	0.50
72:							
Lagunita	60	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Too sandy	1.00
						Droughty	0.99

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72:							
Ripley	25	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Salinity	1.00
73:							
Lampshire	65	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Droughty	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
74:							
Lampshire	65	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Droughty	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
75:							
Lampshire	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.98	Content of large stones	0.98	Content of large stones	1.00
Rock outcrop	40	Not rated		Not rated		Not rated	

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76:							
Lostman	80	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.46
						Gravel content	0.32
77:							
Lostman	80	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
78:							
Lostman	40	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
Kinley	35	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Gravel content	0.50
79:							
Marshes	100	Not rated		Not rated		Not rated	
80:							
Meloland	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.60	Salinity	1.00
		Shrink-swell	1.00	Too clayey	0.28	Flooding	0.60
				Cutbanks cave	0.10		
81:							
Mohon	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Too clayey	0.50	Gravel content	0.41
				Cutbanks cave	0.10		
Kinley	35	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.16	Cutbanks cave	1.00	Gravel content	0.50
				Slope	0.16	Slope	0.16

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
82:							
Mohon	50	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Too clayey	0.50	Content of large stones	1.00
		Slope	0.04	Cutbanks cave	0.10	Slope	0.04
				Slope	0.04	Gravel content	0.02
Poachie	25	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	0.50
				Slope	0.04	Slope	0.04
83:							
Mohon	50	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Too clayey	0.50	Gravel content	1.00
				Cutbanks cave	0.10		
Poachie	25	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	0.50
				Slope	0.04	Slope	0.04
84:							
Nickel family	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.41
Topawa family	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.80
Eba family	25	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Shrink-swell	0.50	Slope	1.00	Slope	1.00
				Too clayey	0.50	Droughty	0.63

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
85:							
Orwash family-------	75	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.55
86:							
Orwash family-------	75	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.55
87:							
Penthouse----------	50	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Content of large stones	1.00
		Slope	0.16	Slope	0.16	Slope	0.16
				Too clayey	0.12	Gravel content	0.01
Gonzales----------	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Content of large stones	1.00
		Shrink-swell	1.00	Slope	1.00	Slope	1.00
88:							
Poachie----------	80	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Gravel content	1.00
89:							
Poachie----------	80	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Gravel content	1.00
90:							
Quilotosa----------	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Gravel content	1.00

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
90:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
91:							
Razorback----------	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Gravel content	1.00
92:							
Razorback----------	65	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	0.84	Slope	0.84	Content of large stones	1.00
				Cutbanks cave	0.10	Droughty	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
93:							
Razorback----------	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
94:							
Razorback----------	60	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Content of large stones	1.00

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
94:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
95:							
Razorback----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
96:							
Razorback----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Content of large stones	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
97:							
Rillino----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	0.50
						Droughty	0.01
98:							
Rillino----------	50	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	1.00
				Slope	0.04	Slope	0.04
						Droughty	0.01

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
98:							
Tres Hermanos-------	35	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	0.50
99:							
Ripley----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Cutbanks cave	1.00	Salinity	1.00
				Flooding	0.60	Flooding	0.60
100:							
Riverbend family----	75	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	1.00
				Slope	0.04	Content of large stones	0.99
						Gravel content	0.87
101:							
Riverbend----------	75	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	1.00
				Slope	0.04	Content of large stones	0.99
						Gravel content	0.65
102:							
Riverwash----------	70	Not rated		Not rated		Not rated	
Fluvaquents---------	20	Not rated		Not rated		Not rated	
103:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Hyder----------	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
104:							
Rock outcrop--------	65	Not rated		Not rated		Not rated	
Razorback----------	30	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Gravel content	1.00
105:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Sunrock----------	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Gravel content	1.00
106:							
Romero----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Content of large stones	1.00
Chiricahua----------	30	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Shrink-swell	1.00	Depth to soft bedrock	1.00	Droughty	1.00
		Slope	1.00	Slope	1.00	Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
107:							
Romero	60	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Content of large stones	1.00
Lampshire	20	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Droughty	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
108:							
Rositas family	40	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
				Slope	1.00	Droughty	0.81
Superstition	25	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.93
						Gravel content	0.50
Torriorthents	25	Not rated		Not rated		Not rated	
109:							
Rositas	40	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
				Slope	1.00	Droughty	0.69
						Too sandy	0.50
Superstition family-	25	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.92

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109:							
Torriorthents-------	20	Not rated		Not rated		Not rated	
110:							
Stagecoach----------	75	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Gravel content	1.00
				Slope	0.04	Droughty	0.07
						Slope	0.04
111:							
Stagecoach----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
				Slope	1.00	Slope	1.00
						Droughty	0.07
112:							
Stagecoach----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
				Slope	1.00	Slope	1.00
						Droughty	0.09
113:							
Stagecoach----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
				Slope	1.00	Slope	1.00
						Droughty	0.09
114:							
Stagecoach----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.11
Topawa family-------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Content of large stones	0.02	Slope	1.00	Slope	1.00
				Content of large stones	0.02	Droughty	0.98

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
114:							
Eba	25	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Shrink-swell	0.50	Slope	1.00	Slope	1.00
				Too clayey	0.12	Droughty	0.99
115:							
Stagecoach	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.11
Topawa family	30	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Content of large stones	0.02	Slope	1.00	Slope	1.00
				Content of large stones	0.02	Droughty	0.98
Eba	25	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Shrink-swell	0.50	Slope	1.00	Slope	1.00
				Too clayey	0.12	Droughty	0.99
116:							
Sunrock	90	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Gravel content	1.00
117:							
Sunrock	70	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Gravel content	1.00

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
117:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
118:							
Tombstone----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Content of large stones	1.00
						Droughty	0.92
Caralampi----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.82
Eloma----------	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Slope	1.00	Content of large stones	1.00
		Slope	1.00	Content of large stones	0.68	Slope	1.00
		Content of large stones	0.68	Too clayey	0.12	Droughty	0.36
119:							
Torriorthents-------	75	Not rated		Not rated		Not rated	
120:							
Torriorthents-------	75	Not rated		Not rated		Not rated	
121:							
Tumarion----------	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Cutbanks cave	0.10	Depth to cemented pan	1.00
				Slope	0.04	Content of large stones	1.00

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
122:							
Tumarion----------	85	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	0.04	Cutbanks cave	0.10	Depth to cemented pan	1.00
				Slope	0.04	Content of large stones	1.00
123:							
Tyro----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
				Cutbanks cave	0.10	Content of large stones	1.00
						Droughty	1.00
124:							
Tyro----------	85	Not limited		Somewhat limited		Very limited	
				Cutbanks cave	0.10	Depth to cemented pan	1.00
						Content of large stones	1.00
						Droughty	1.00
125:							
Vekol family--------	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	0.50
				Too clayey	0.12		
126:							
Vekol family--------	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	0.50
				Too clayey	0.12		
127:							
Water----------	100	Not rated		Not rated		Not rated	

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
128:							
Whitehills----------	80	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	1.00
						Droughty	0.75
						Depth to cemented pan	0.71
129:							
Whitehills----------	80	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	1.00
		Slope	0.04	Slope	0.04	Droughty	0.75
						Depth to cemented pan	0.71
130:							
White House family--	85	Very limited		Very limited		Very limited	
		Low strength	1.00	Cutbanks cave	1.00	Gravel content	1.00
		Shrink-swell	1.00	Too clayey	0.12	Slope	0.04
		Slope	0.04	Slope	0.04	Droughty	0.01
131:							
White House---------	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Gravel content	0.41
		Slope	0.04	Too clayey	0.12	Slope	0.04
				Slope	0.04		
132:							
Wikieup----------	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Droughty	1.00
		Slope	1.00	Slope	1.00	Content of large stones	1.00

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132:							
Mutang	30	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Gravel content	1.00
		Low strength	1.00	Slope	1.00	Droughty	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
133:							
Mutang	55	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Low strength	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Shrink-swell	1.00	Slope	1.00	Droughty	0.98
Wikieup	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Gravel content	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	1.00
Rock outcrop	15	Not rated		Not rated		Not rated	
134:							
Wikieup	50	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Droughty	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
135:							
Yahana family-------	85	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Cutbanks cave	1.00	Salinity	1.00
				Too clayey	0.02	Sodium content	1.00
136:							
Tumarion----------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Depth to cemented pan	1.00
		Content of large stones	0.84	Slope	1.00	Content of large stones	1.00
		Depth to hard bedrock	0.79	Content of large stones	0.84	Droughty	1.00
Nickel family-------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Content of large stones	1.00
		Content of large stones	0.90	Content of large stones	0.90	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.16
137:							
Valena----------	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Slope	0.84	Slope	0.84	Droughty	1.00
				Cutbanks cave	0.10	Slope	0.84
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Carri family--------	15	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.84	Cutbanks cave	1.00	Slope	0.84
		Shrink-swell	0.50	Slope	0.84		

Table 8.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
138:							
Nodman	65	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.78	Cutbanks cave	0.10	Droughty	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
139:							
Nodman	60	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.78	Content of large stones	0.55	Droughty	1.00
Romero family	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.99	Slope	1.00	Droughty	1.00

Table 9.--Sewage Disposal

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1:					
Akela	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00
Rock outcrop	20	Not rated		Not rated	
Rubble land	20	Not rated		Not rated	
2:					
Akela	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00
Rock outcrop	20	Not rated		Not rated	
Rubble land	20	Not rated		Not rated	
3:					
Alko family	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Seepage	1.00
				Slope	1.00
4:					
Alko family	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Seepage	1.00
				Slope	1.00
5:					
Amole	75	Not limited		Very limited	
				Seepage	1.00
6:					
Amole	75	Not limited		Very limited	
				Seepage	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
7:					
Anthony	45	Not limited		Very limited	
				Seepage	1.00
Dudleyville	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
8:					
Aquarius	45	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00	Content of large stones	0.78
Akela	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Content of large stones	1.00	Content of large stones	1.00
		Slope	0.84	Slope	1.00
Rock outcrop	20	Not rated		Not rated	
9:					
Arizo	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
Franconia	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
Riverwash	20	Not rated		Not rated	
10:					
Arizo	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
Franconia	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
Riverwash	20	Not rated		Not rated	
11:					
Bartmus	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Slope	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
12:					
Bonita family-------	85	Very limited		Somewhat limited	
		Restricted permeability	1.00	Slope	0.92
				Seepage	0.50
13:					
Bonita family-------	60	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	0.84	Seepage	0.50
Gonzales----------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
14:					
Brazito family------	75	Not limited		Very limited	
				Seepage	1.00
15:					
Bucklebar----------	80	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00
16:					
Cacique family------	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Restricted permeability	0.50	Seepage	0.50
				Slope	0.32
17:					
Castaneda----------	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	0.32
18:					
Castaneda----------	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	0.32

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
19:					
Carrizo family------	75	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
20:					
Carrizo family------	65	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
Riverwash----------	20	Not rated		Not rated	
21:					
Carrizo----------	75	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.92
Riverwash----------	15	Not rated		Not rated	
22:					
Carrizo----------	65	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
Riverwash----------	20	Not rated		Not rated	
23:					
Cave----------	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
24:					
Cave----------	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
25:					
Cellar----------	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
25:					
Rock outcrop--------	25	Not rated		Not rated	
26:					
Cellar----------	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop--------	25	Not rated		Not rated	
27:					
Cellar----------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Topock----------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop--------	20	Not rated		Not rated	
28:					
Cherioni----------	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Slope	1.00
29:					
Chuckawalla---------	65	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00
Riverbend----------	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00
30:					
Chuckawalla family--	65	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
30:					
Riverbend family----	25	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00
31:					
Cipriano----------	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	0.92
32:					
Cline----------	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Slope	1.00
33:					
Cline----------	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Slope	1.00
34:					
Continental---------	50	Very limited		Somewhat limited	
		Restricted permeability	1.00	Slope	0.92
Tres Hermanos-------	25	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00
35:					
Continental---------	50	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	0.04		
Tres Hermanos-------	25	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00
36:					
Continental---------	50	Very limited		Somewhat limited	
		Restricted permeability	1.00	Slope	0.92

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
36:					
Rillino	35	Somewhat limited		Very limited	
		Slope	0.16	Seepage	1.00
				Slope	1.00
37:					
Continental	50	Very limited		Somewhat limited	
		Restricted permeability	1.00	Slope	0.92
Rillino	35	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00
38:					
Coolidge	40	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08
Denure	35	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
39:					
Coolidge family	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.32
Denure family	35	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
40:					
Courthouse family	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	20	Not rated		Not rated	
Rubble land	20	Not rated		Not rated	
41:					
Courthouse family	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	30	Not rated		Not rated	

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
41:					
Wagonbow	20	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00		
42:					
Far	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
		Content of large stones	0.58	Slope	1.00
Rock outcrop	20	Not rated		Not rated	
43:					
Dutchflat	80	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00
44:					
Dutchflat	80	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
45:					
Gadsden	80	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
46:					
Gila	50	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	0.50	Seepage	1.00
Glendale	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
		Restricted permeability	1.00		
47:					
Gila	50	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	1.00	Seepage	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
47:					
Glendale----------	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
		Restricted permeability	1.00		
48:					
Goldroad----------	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
Rock outcrop--------	20	Not rated		Not rated	
49:					
Gonzales----------	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop--------	25	Not rated		Not rated	
50:					
Goodsprings family--	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	1.00
51:					
Goodsprings family--	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Seepage	1.00
				Slope	1.00
52:					
Goodsprings family--	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
53:					
Goodsprings family--	75	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
54:					
Graham	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.04	Slope	1.00
Arivaca	25	Very limited		Very limited	
		Restricted permeability	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.04		
55:					
Graham	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	20	Not rated		Not rated	
56:					
Gunsight	75	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00
57:					
Gunsight	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00
58:					
Hassell family	50	Very limited		Very limited	
		Restricted permeability	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00		
Lampshire	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop	20	Not rated		Not rated	
59:					
Holtville	75	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
60:					
Huevi	75	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00
61:					
Huevi	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00
62:					
Akela	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	20	Not rated		Not rated	
63:					
Hyder	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00
Rock outcrop	20	Not rated		Not rated	
Rubble land	20	Not rated		Not rated	
64:					
Indio	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Restricted permeability	0.50		
65:					
Ireteba family	45	Somewhat limited		Very limited	
		Flooding	0.40	Seepage	1.00
				Flooding	0.40
Arizo	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
66:					
Kinley	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Septic tank absorption fields: Value	Sewage lagoons: Rating class and limiting features	Sewage lagoons: Value
67:					
Kinley	50	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00
Poachie	35	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
				Slope	0.68
68:					
Kofa	85	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
69:					
Dudleyville	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
Vinton	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
Riverwash	20	Not rated		Not rated	
70:					
Dudleyville	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
Vinton	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
				Seepage	1.00
Riverwash	20	Not rated		Not rated	
71:					
Lagunita	85	Not limited		Very limited	
				Seepage	1.00
72:					
Lagunita	60	Not limited		Very limited	
				Seepage	1.00
Ripley	25	Somewhat limited		Very limited	
		Restricted permeability	0.50	Seepage	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
73:					
Lampshire	65	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop	20	Not rated		Not rated	
74:					
Lampshire	65	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop	20	Not rated		Not rated	
75:					
Lampshire	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.98		
Rock outcrop	40	Not rated		Not rated	
76:					
Lostman	80	Not limited		Very limited	
				Seepage	1.00
				Slope	0.08
77:					
Lostman	80	Not limited		Very limited	
				Seepage	1.00
78:					
Lostman	40	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
Kinley	35	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
79:					
Marshes	100	Not rated		Not rated	

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
80:					
Meloland	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	1.00	Seepage	0.50
81:					
Mohon	50	Very limited		Somewhat limited	
		Restricted permeability	1.00	Slope	0.92
Kinley	35	Somewhat limited		Very limited	
		Slope	0.16	Seepage	1.00
				Slope	1.00
82:					
Mohon	50	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	0.04		
Poachie	25	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00
83:					
Mohon	50	Very limited		Somewhat limited	
		Restricted permeability	1.00	Slope	0.92
Poachie	25	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00
84:					
Nickel family	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Seepage	1.00
Topawa family	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	1.00	Seepage	1.00
Eba family	25	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00	Seepage	0.50

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
85:					
Orwash family-------	75	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
86:					
Orwash family-------	75	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
87:					
Penthouse----------	50	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.16	Slope	1.00
Gonzales----------	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
88:					
Poachie----------	80	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
				Slope	0.08
89:					
Poachie----------	80	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
				Slope	0.08
90:					
Quilotosa----------	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop--------	20	Not rated		Not rated	
91:					
Razorback----------	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
92:					
Razorback----------	65	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.84	Slope	1.00
				Seepage	0.50
Rock outcrop--------	20	Not rated		Not rated	
93:					
Razorback----------	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
Rock outcrop--------	20	Not rated		Not rated	
94:					
Razorback----------	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
Rock outcrop--------	20	Not rated		Not rated	
95:					
Razorback----------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
Rock outcrop--------	20	Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated	
96:					
Razorback----------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50
Rock outcrop--------	20	Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated	
97:					
Rillino----------	75	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
98:					
Rillino	50	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00
Tres Hermanos	35	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
				Slope	0.68
99:					
Ripley	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	0.50	Seepage	1.00
100:					
Riverbend family	75	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00
101:					
Riverbend	75	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00
102:					
Riverwash	70	Not rated		Not rated	
Fluvaquents	20	Not rated		Not rated	
103:					
Rock outcrop	45	Not rated		Not rated	
Hyder	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	1.00	Content of large stones	1.00
104:					
Rock outcrop	65	Not rated		Not rated	
Razorback	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.50

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
105:					
Rock outcrop--------	45	Not rated		Not rated	
Sunrock----------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
106:					
Romero----------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Chiricahua----------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop--------	20	Not rated		Not rated	
107:					
Romero----------	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
Lampshire----------	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop--------	15	Not rated		Not rated	
108:					
Rositas family------	40	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
				Slope	1.00
Superstition--------	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.92
Torriorthents-------	25	Not rated		Not rated	

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
109:					
Rositas	40	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Slope	1.00	Slope	1.00
Superstition family	25	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.92
Torriorthents	20	Not rated		Not rated	
110:					
Stagecoach	75	Somewhat limited		Very limited	
		Slope	0.04	Seepage	1.00
				Slope	1.00
111:					
Stagecoach	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00
112:					
Stagecoach	80	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
				Slope	1.00
113:					
Stagecoach	80	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
				Slope	1.00
114:					
Stagecoach	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00
Topawa family	30	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Content of large stones	0.02	Content of large stones	1.00
Eba	25	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
115:					
Stagecoach	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00
Topawa family	30	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Content of large stones	0.02	Content of large stones	1.00
Eba	25	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
116:					
Sunrock	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
117:					
Sunrock	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop	20	Not rated		Not rated	
118:					
Tombstone	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00
Caralampi	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Restricted permeability	0.50	Seepage	1.00
Eloma	25	Very limited		Very limited	
		Restricted permeability	1.00	Slope	1.00
		Slope	1.00	Content of large stones	1.00
		Content of large stones	0.68		

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
119:					
Torriorthents	75	Not rated		Not rated	
120:					
Torriorthents	75	Not rated		Not rated	
121:					
Tumarion	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Slope	1.00
122:					
Tumarion	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	0.04	Slope	1.00
123:					
Tyro	90	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
124:					
Tyro	85	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
				Slope	0.92
125:					
Vekol family	85	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Filtering capacity	1.00	Slope	0.68
126:					
Vekol family	85	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Filtering capacity	1.00	Slope	0.68
127:					
Water	100	Not rated		Not rated	

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
128:					
Whitehills----------	80	Very limited		Very limited	
		Restricted permeability	1.00	Depth to cemented pan	1.00
		Depth to cemented pan	1.00	Seepage	0.50
				Slope	0.08
129:					
Whitehills----------	80	Very limited		Very limited	
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Restricted permeability	0.50	Slope	1.00
		Slope	0.04	Seepage	0.50
130:					
White House family--	85	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00
131:					
White House---------	85	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.04	Slope	1.00
132:					
Wikieup----------	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Mutang----------	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop--------	20	Not rated		Not rated	
133:					
Mutang----------	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
133:					
Wikieup----------	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop--------	15	Not rated		Not rated	
134:					
Wikieup----------	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
				Slope	1.00
Rock outcrop--------	25	Not rated		Not rated	
135:					
Yahana family-------	85	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
136:					
Tumarion----------	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Depth to cemented pan	1.00	Depth to cemented pan	1.00
		Slope	1.00	Slope	1.00
Nickel family-------	15	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Content of large stones	0.90	Content of large stones	1.00
				Seepage	1.00
137:					
Valena----------	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.84	Slope	1.00
Rock outcrop--------	20	Not rated		Not rated	
Carri family--------	15	Very limited		Very limited	
		Restricted permeability	1.00	Seepage	1.00
		Slope	0.84	Slope	1.00

Table 9.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
138:					
Nodman	65	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop	20	Not rated		Not rated	
139:					
Nodman	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Content of large stones	0.55	Content of large stones	0.08
Romero family	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Depth to soft bedrock	1.00
		Content of large stones	0.75	Slope	1.00

Table 10.--Landfills

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Akela	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	1.00			Content of large stones	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
Rubble land	20	Not rated		Not rated		Not rated	
2:							
Akela	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	1.00			Content of large stones	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
Rubble land	20	Not rated		Not rated		Not rated	
3:							
Alko family	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Depth to cemented pan	1.00
						Seepage	0.50
						Gravel content	0.25

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4:							
Alko family---------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Depth to cemented pan	1.00
						Seepage	0.50
						Gravel content	0.25
5:							
Amole----------	75	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Seepage	1.00
						Too Sandy	0.50
6:							
Amole----------	75	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Seepage	1.00
						Too Sandy	0.50
7:							
Anthony----------	45	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
						Gravel content	0.45
Dudleyville---------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
						Gravel content	1.00
8:							
Aquarius----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
						Slope	1.00
Akela----------	30	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.84	Depth to bedrock	1.00
		Content of large stones	1.00			Content of large stones	1.00
		Slope	0.84			Slope	0.84
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9:							
Arizo	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Too Sandy	0.50
Franconia	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Too Sandy	0.50
Riverwash	20	Not rated		Not rated		Not rated	
10:							
Arizo	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Too Sandy	0.50
Franconia	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Too Sandy	0.50
Riverwash	20	Not rated		Not rated		Not rated	
11:							
Bartmus	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to cemented pan	1.00
		Slope	0.04			Depth to bedrock	1.00
						Gravel content	1.00
12:							
Bonita family	85	Not limited		Not limited		Very limited	
						Hard to compact	1.00
						Gravel content	0.12

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
13:							
Bonita family-------	60	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Hard to compact	1.00
						Slope	0.84
						Gravel content	0.12
Gonzales----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Hard to compact	1.00
14:							
Brazito family------	75	Very limited		Not limited		Very limited	
		Too Sandy	1.00			Seepage	1.00
						Too Sandy	0.50
15:							
Bucklebar----------	80	Not limited		Not limited		Not limited	
16:							
Cacique family------	75	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	0.61
17:							
Castaneda----------	75	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	0.98
						Seepage	0.50
18:							
Castaneda----------	75	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	0.98
						Seepage	0.50

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
19:							
Carrizo family------	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
						Gravel content	1.00
20:							
Carrizo family------	65	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
						Gravel content	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	
21:							
Carrizo----------	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
						Gravel content	1.00
Riverwash----------	15	Not rated		Not rated		Not rated	
22:							
Carrizo----------	65	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Too Sandy	0.50
Riverwash----------	20	Not rated		Not rated		Not rated	
23:							
Cave----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
		Too Sandy	0.50			Slope	1.00
						Seepage	1.00

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24:							
Cave	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
		Too Sandy	0.50			Slope	1.00
						Seepage	1.00
25:							
Cellar	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	
26:							
Cellar	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	
27:							
Cellar	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
Topock	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
28:							
Cherioni----------	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to cemented pan	1.00
		Depth to thin cemented pan	0.50			Depth to bedrock	1.00
		Slope	0.04			Gravel content	1.00
29:							
Chuckawalla---------	65	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Slope	0.04	Seepage	1.00
		Slope	0.04			Gravel content	1.00
						Too Sandy	0.50
Riverbend----------	25	Very limited		Somewhat limited		Very limited	
		Too Sandy	1.00	Slope	0.04	Too Sandy	1.00
		Slope	0.04			Seepage	1.00
						Gravel content	1.00
30:							
Chuckawalla family--	65	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Gravel content	1.00
						Seepage	0.50
						Slope	0.04
Riverbend family----	25	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Slope	0.04	Seepage	1.00
		Slope	0.04			Gravel content	1.00
						Too Sandy	0.50
31:							
Cipriano----------	85	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
32:							
Cline	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to cemented pan	1.00
		Slope	0.04			Depth to bedrock	1.00
						Gravel content	1.00
33:							
Cline	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to cemented pan	1.00
		Slope	0.04			Depth to bedrock	1.00
						Gravel content	1.00
34:							
Continental	50	Not limited		Not limited		Not limited	
Tres Hermanos	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Seepage	0.50
						Gravel content	0.50
						Slope	0.04
35:							
Continental	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Slope	0.04
Tres Hermanos	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Seepage	0.50
						Gravel content	0.50
						Slope	0.04
36:							
Continental	50	Not limited		Not limited		Not limited	
Rillino	35	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Slope	0.16	Seepage	1.00
		Slope	0.16			Gravel content	1.00
						Too Sandy	0.50

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
37:							
Continental---------	50	Not limited		Not limited		Not limited	
Rillino----------	35	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Slope	0.04	Seepage	1.00
		Slope	0.04			Gravel content	1.00
						Too Sandy	0.50
38:							
Coolidge----------	40	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
Denure----------	35	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
39:							
Coolidge family-----	40	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
Denure family-------	35	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
40:							
Courthouse family---	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
41:							
Courthouse family---	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
41:							
Rock outcrop--------	30	Not rated		Not rated		Not rated	
Wagonbow----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Hard to compact	1.00
42:							
Far----------	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.58			Content of large stones	0.58
Rock outcrop--------	20	Not rated		Not rated		Not rated	
43:							
Dutchflat----------	80	Not limited		Not limited		Not limited	
44:							
Dutchflat----------	80	Not limited		Not limited		Somewhat limited	
						Gravel content	0.91
						Seepage	0.50
45:							
Gadsden----------	80	Not limited		Not limited		Very limited	
						Hard to compact	1.00
46:							
Gila----------	50	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
Glendale----------	30	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47:							
Gila----------	50	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
Glendale----------	30	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
48:							
Goldroad----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
49:							
Gonzales----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Hard to compact	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
50:							
Goodsprings family--	75	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	0.52
51:							
Goodsprings family--	75	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	0.52

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
52:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
						Slope	1.00
						Gravel content	0.52
53:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
						Slope	1.00
						Gravel content	0.52
54:							
Graham----------	60	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to bedrock	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
Arivaca----------	25	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to bedrock	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
55:							
Graham----------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
56:							
Gunsight----------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Gravel content	1.00
						Seepage	0.50
						Slope	0.04

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
57:							
Gunsight----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
						Slope	1.00
						Seepage	0.50
58:							
Hassell family------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Lampshire----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
59:							
Holtville----------	75	Very limited		Not limited		Very limited	
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
60:							
Huevi----------	75	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Slope	0.04	Seepage	1.00
		Slope	0.04			Gravel content	1.00
						Too Sandy	0.50
61:							
Huevi----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Slope	1.00

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
62:							
Akela	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
63:							
Hyder	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	1.00			Content of large stones	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
Rubble land	20	Not rated		Not rated		Not rated	
64:							
Indio	85	Not limited		Not limited		Not limited	
65:							
Ireteba family	45	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Flooding	0.40	Seepage	1.00
		Flooding	0.40			Gravel content	0.80
						Too Sandy	0.50
Arizo	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Gravel content	1.00
						Too Sandy	0.50
66:							
Kinley	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.62
						Seepage	0.50

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67:							
Kinley----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Gravel content	0.62
						Seepage	0.50
						Slope	0.04
Poachie----------	35	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
68:							
Kofa----------	85	Very limited		Not limited		Very limited	
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
69:							
Dudleyville---------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
						Gravel content	1.00
Vinton----------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Too Sandy	0.50
						Gravel content	0.08
Riverwash----------	20	Not rated		Not rated		Not rated	
70:							
Dudleyville---------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
						Gravel content	1.00
Vinton----------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Too Sandy	0.50
						Gravel content	0.08

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
70:							
Riverwash	20	Not rated		Not rated		Not rated	
71:							
Lagunita	85	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Seepage	1.00
						Too Sandy	0.50
72:							
Lagunita	60	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Seepage	1.00
						Too Sandy	0.50
Ripley	25	Somewhat limited		Not limited		Very limited	
		Too Sandy	0.50			Seepage	1.00
						Too Sandy	0.50
						Gravel content	0.46
73:							
Lampshire	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
74:							
Lampshire	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75:							
Lampshire----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	0.98			Content of large stones	0.98
Rock outcrop--------	40	Not rated		Not rated		Not rated	
76:							
Lostman----------	80	Not limited		Not limited		Somewhat limited	
						Gravel content	0.86
						Seepage	0.50
77:							
Lostman----------	80	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
						Gravel content	0.10
78:							
Lostman----------	40	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
						Gravel content	0.10
Kinley----------	35	Not limited		Not limited		Somewhat limited	
						Gravel content	0.62
						Seepage	0.50
79:							
Marshes----------	100	Not rated		Not rated		Not rated	
80:							
Meloland----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Hard to compact	1.00
81:							
Mohon----------	50	Not limited		Not limited		Not limited	

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
81:							
Kinley	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16	Gravel content	0.62
						Seepage	0.50
						Slope	0.16
82:							
Mohon	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Slope	0.04
Poachie	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Seepage	0.50
						Slope	0.04
83:							
Mohon	50	Not limited		Not limited		Not limited	
Poachie	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Seepage	0.50
						Slope	0.04
84:							
Nickel family	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Topawa family	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Eba family	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
						Slope	1.00

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
85:							
Orwash family-------	75	Very limited		Not limited		Very limited	
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
						Gravel content	0.14
86:							
Orwash family-------	75	Very limited		Not limited		Very limited	
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
						Gravel content	0.14
87:							
Penthouse----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16	Gravel content	0.64
						Slope	0.16
Gonzales----------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
88:							
Poachie----------	80	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
89:							
Poachie----------	80	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
90:							
Quilotosa----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
91:							
Razorback----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
92:							
Razorback----------	65	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.84	Depth to bedrock	1.00
		Slope	0.84			Gravel content	1.00
						Slope	0.84
Rock outcrop--------	20	Not rated		Not rated		Not rated	
93:							
Razorback----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
94:							
Razorback----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
95:							
Razorback----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
96:							
Razorback----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
97:							
Rillino----------	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too Sandy	0.50			Seepage	1.00
						Gravel content	1.00
98:							
Rillino----------	50	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Slope	0.04	Seepage	1.00
		Slope	0.04			Gravel content	1.00
						Too Sandy	0.50
Tres Hermanos-------	35	Not limited		Not limited		Somewhat limited	
						Seepage	0.50
						Gravel content	0.50
99:							
Ripley----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Too Sandy	0.50			Too Sandy	0.50
						Gravel content	0.46
100:							
Riverbend family----	75	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Slope	0.04	Seepage	1.00
		Slope	0.04			Gravel content	1.00
						Too Sandy	0.50

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101:							
Riverbend----------	75	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Slope	0.04	Seepage	1.00
		Slope	0.04			Gravel content	1.00
						Too Sandy	0.50
102:							
Riverwash----------	70	Not rated		Not rated		Not rated	
Fluvaquents---------	20	Not rated		Very limited		Not rated	
				Flooding	1.00		
103:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Hyder----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	1.00			Content of large stones	1.00
104:							
Rock outcrop--------	65	Not rated		Not rated		Not rated	
Razorback----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
105:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Sunrock----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
106:							
Romero----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
Chiricahua----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
107:							
Romero----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Lampshire----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop--------	15	Not rated		Not rated		Not rated	
108:							
Rositas family------	40	Very limited		Very limited		Very limited	
		Too Sandy	1.00	Slope	1.00	Too Sandy	1.00
		Slope	1.00			Seepage	1.00
						Slope	1.00
Superstition--------	25	Very limited		Not limited		Very limited	
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
Torriorthents-------	25	Not rated		Very limited		Not rated	
				Slope	1.00		

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109:							
Rositas----------	40	Very limited		Very limited		Very limited	
		Too Sandy	1.00	Slope	1.00	Too Sandy	1.00
		Slope	1.00			Seepage	1.00
						Slope	1.00
Superstition family-	25	Very limited		Not limited		Very limited	
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
Torriorthents-------	20	Not rated		Very limited		Not rated	
				Slope	1.00		
110:							
Stagecoach----------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Gravel content	1.00
						Seepage	0.50
						Slope	0.04
111:							
Stagecoach----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
						Slope	1.00
						Seepage	0.50
112:							
Stagecoach----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
						Slope	1.00
						Seepage	0.50
113:							
Stagecoach----------	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
						Slope	1.00
						Seepage	0.50

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
114:							
Stagecoach----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Topawa family-------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.99
						Seepage	0.50
Eba----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
						Slope	1.00
						Seepage	0.50
115:							
Stagecoach----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Topawa family-------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.99
						Seepage	0.50
Eba----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Gravel content	1.00
						Slope	1.00
						Seepage	0.50
116:							
Sunrock----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
117:							
Sunrock----------	70	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
118:							
Tombstone----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Caralampi----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	1.00
						Seepage	0.50
Eloma----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Hard to compact	1.00
		Content of large stones	0.83			Slope	1.00
						Content of large stones	0.83
119:							
Torriorthents-------	75	Not rated		Very limited		Not rated	
				Slope	1.00		
120:							
Torriorthents-------	75	Not rated		Very limited		Not rated	
				Slope	1.00		

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
121:							
Tumarion----------	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to cemented pan	1.00
		Slope	0.04			Depth to bedrock	1.00
						Gravel content	1.00
122:							
Tumarion----------	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Slope	0.04	Depth to cemented pan	1.00
		Slope	0.04			Depth to bedrock	1.00
						Gravel content	1.00
123:							
Tyro----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to cemented pan	1.00
						Gravel content	1.00
						Slope	1.00
124:							
Tyro----------	85	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
						Seepage	0.50
125:							
Vekol family--------	85	Very limited		Not limited		Very limited	
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
						Gravel content	0.94
126:							
Vekol family--------	85	Very limited		Not limited		Very limited	
		Too Sandy	1.00			Too Sandy	1.00
						Seepage	1.00
						Gravel content	0.94

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
127:							
Water	100	Not rated		Not rated		Not rated	
128:							
Whitehills	80	Not limited		Not limited		Very limited	
						Depth to cemented pan	1.00
						Gravel content	1.00
129:							
Whitehills	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Depth to cemented pan	1.00
						Gravel content	1.00
						Slope	0.04
130:							
White House family	85	Somewhat limited		Somewhat limited		Very limited	
		Too Sandy	0.50	Slope	0.04	Seepage	1.00
		Slope	0.04			Too Sandy	0.50
						Gravel content	0.43
131:							
White House	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Slope	0.04
						Gravel content	0.03
132:							
Wikieup	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
						Seepage	0.50
Mutang	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
133:							
Mutang----------	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Wikieup----------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Gravel content	1.00
						Slope	1.00
Rock outcrop--------	15	Not rated		Not rated		Not rated	
134:							
Wikieup----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	0.75
Rock outcrop--------	25	Not rated		Not rated		Not rated	
135:							
Yahana family-------	85	Very limited		Not limited		Not limited	
		Salinity	1.00				
136:							
Tumarion----------	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Depth to cemented pan	1.00
		Slope	1.00			Depth to bedrock	1.00
		Content of large stones	0.84			Slope	1.00

Table 10.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
136:							
Nickel family-------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Content of large stones	0.71			Content of large stones	0.71
						Seepage	0.50
137:							
Valena----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.84	Slope	0.84	Slope	0.84
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Carri family--------	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.84	Slope	0.84	Slope	0.84
138:							
Nodman----------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
						Gravel content	1.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
139:							
Nodman----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	0.55			Content of large stones	0.55
Romero family-------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00			Slope	1.00
		Content of large stones	0.75			Content of large stones	0.75

Table 11.--Source of Gravel and Sand

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1:					
Akela	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
Rubble land	20	Not rated		Not rated	
2:					
Akela	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
Rubble land	20	Not rated		Not rated	
3:					
Alko family	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.34
4:					
Alko family	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.34
5:					
Amole	75	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.12
6:					
Amole	75	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.12
7:					
Anthony	45	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.02
		Thickest layer	0.00	Thickest layer	0.05

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
7:					
Dudleyville---------	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.12
		Bottom layer	0.06	Bottom layer	0.61
8:					
Aquarius----------	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Akela----------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop--------	20	Not rated		Not rated	
9:					
Arizo----------	40	Fair		Fair	
		Bottom layer	0.19	Thickest layer	0.10
		Thickest layer	0.47	Bottom layer	0.12
Franconia----------	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.10
		Thickest layer	0.00	Thickest layer	0.10
Riverwash----------	20	Not rated		Not rated	
10:					
Arizo----------	40	Fair		Fair	
		Bottom layer	0.19	Thickest layer	0.10
		Thickest layer	0.47	Bottom layer	0.12
Franconia----------	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.10
		Thickest layer	0.00	Thickest layer	0.10
Riverwash----------	20	Not rated		Not rated	
11:					
Bartmus----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
12:					
Bonita family-------	85	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
13:					
Bonita family-------	60	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Gonzales----------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
14:					
Brazito family------	75	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.64
15:					
Bucklebar----------	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.05
16:					
Cacique family------	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
17:					
Castaneda----------	75	Fair		Fair	
		Thickest layer	0.11	Thickest layer	0.00
		Bottom layer	0.56	Bottom layer	0.10
18:					
Castaneda----------	75	Fair		Fair	
		Thickest layer	0.11	Thickest layer	0.00
		Bottom layer	0.56	Bottom layer	0.10
19:					
Carrizo family------	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.07
		Bottom layer	0.19	Bottom layer	0.61
20:					
Carrizo family------	65	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.07
		Bottom layer	0.19	Bottom layer	0.61
Riverwash----------	20	Not rated		Not rated	
21:					
Carrizo----------	75	Fair		Fair	
		Bottom layer	0.62	Thickest layer	0.07
		Thickest layer	0.62	Bottom layer	0.79

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
21:					
Riverwash	15	Not rated		Not rated	
22:					
Carrizo	65	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.13
		Bottom layer	0.62	Thickest layer	0.61
Riverwash	20	Not rated		Not rated	
23:					
Cave	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.13
24:					
Cave	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.13
25:					
Cellar	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.02
Rock outcrop	25	Not rated		Not rated	
26:					
Cellar	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.02
Rock outcrop	25	Not rated		Not rated	
27:					
Cellar	45	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.02
Topock	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
28:					
Cherioni	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
29:					
Chuckawalla---------	65	Fair		Fair	
		Bottom layer	0.19	Thickest layer	0.00
		Thickest layer	0.19	Bottom layer	0.10
Riverbend----------	25	Fair		Fair	
		Bottom layer	0.06	Thickest layer	0.10
		Thickest layer	0.19	Bottom layer	0.82
30:					
Chuckawalla family--	65	Fair		Fair	
		Bottom layer	0.19	Thickest layer	0.00
		Thickest layer	0.19	Bottom layer	0.04
Riverbend family----	25	Fair		Fair	
		Bottom layer	0.19	Thickest layer	0.04
		Thickest layer	0.19	Bottom layer	0.10
31:					
Cipriano----------	85	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00
32:					
Cline----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
33:					
Cline----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
34:					
Continental---------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Tres Hermanos-------	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
35:					
Continental---------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Tres Hermanos-------	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
36:					
Continental---------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rillino----------	35	Fair		Fair	
		Thickest layer	0.11	Bottom layer	0.07
		Bottom layer	0.19	Thickest layer	0.07
37:					
Continental---------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rillino----------	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.07
38:					
Coolidge----------	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
Denure----------	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.06
		Thickest layer	0.00	Thickest layer	0.06
39:					
Coolidge family-----	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.64
Denure family-------	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.02
		Thickest layer	0.00	Thickest layer	0.07
40:					
Courthouse family---	45	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00
Rock outcrop--------	20	Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated	
41:					
Courthouse family---	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
41:					
Rock outcrop--------	30	Not rated		Not rated	
Wagonbow----------	20	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00
42:					
Far----------	70	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00
Rock outcrop--------	20	Not rated		Not rated	
43:					
Dutchflat----------	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.05
44:					
Dutchflat----------	80	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.06
45:					
Gadsden----------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
46:					
Gila----------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glendale----------	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.61
47:					
Gila----------	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glendale----------	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.61
48:					
Goldroad----------	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.02

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
48:					
Rock outcrop--------	20	Not rated		Not rated	
49:					
Gonzales----------	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop--------	25	Not rated		Not rated	
50:					
Goodsprings family--	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.10
51:					
Goodsprings family--	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.10
52:					
Goodsprings family--	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.10
53:					
Goodsprings family--	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.10
54:					
Graham----------	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Arivaca----------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
55:					
Graham----------	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop--------	20	Not rated		Not rated	
56:					
Gunsight----------	75	Fair		Fair	
		Thickest layer	0.37	Thickest layer	0.05
		Bottom layer	0.56	Bottom layer	0.07

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
57:					
Gunsight	85	Fair		Fair	
		Thickest layer	0.37	Thickest layer	0.05
		Bottom layer	0.56	Bottom layer	0.07
58:					
Hassell family	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lampshire	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
Rock outcrop	20	Not rated		Not rated	
59:					
Holtville	75	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.25
60:					
Huevi	75	Fair		Fair	
		Thickest layer	0.19	Thickest layer	0.02
		Bottom layer	0.19	Bottom layer	0.10
61:					
Huevi	85	Fair		Fair	
		Thickest layer	0.19	Thickest layer	0.02
		Bottom layer	0.19	Bottom layer	0.10
62:					
Akela	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.31	Bottom layer	0.02
Rock outcrop	20	Not rated		Not rated	
63:					
Hyder	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
Rubble land	20	Not rated		Not rated	
64:					
Indio	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.64

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
65:					
Ireteba family------	45	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.19	Bottom layer	0.07
Arizo----------	30	Fair		Fair	
		Bottom layer	0.19	Thickest layer	0.10
		Thickest layer	0.47	Bottom layer	0.12
66:					
Kinley----------	75	Fair		Fair	
		Thickest layer	0.12	Bottom layer	0.02
		Bottom layer	0.12	Thickest layer	0.02
67:					
Kinley----------	50	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.02
		Bottom layer	0.12	Thickest layer	0.02
Poachie----------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.05
68:					
Kofa----------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.12
69:					
Dudleyville---------	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.12
		Bottom layer	0.06	Bottom layer	0.61
Vinton----------	30	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.13
		Bottom layer	0.19	Thickest layer	0.13
Riverwash----------	20	Not rated		Not rated	
70:					
Dudleyville---------	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.12
		Bottom layer	0.06	Bottom layer	0.61
Vinton----------	30	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.13
		Bottom layer	0.19	Thickest layer	0.13
Riverwash----------	20	Not rated		Not rated	

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
71:					
Lagunita	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.82
72:					
Lagunita	60	Poor		Fair	
		Thickest layer	0.00	Bottom layer	0.08
		Bottom layer	0.00	Thickest layer	0.54
Ripley	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.06
73:					
Lampshire	65	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
Rock outcrop	20	Not rated		Not rated	
74:					
Lampshire	65	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
Rock outcrop	20	Not rated		Not rated	
75:					
Lampshire	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	40	Not rated		Not rated	
76:					
Lostman	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
77:					
Lostman	80	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.02
		Bottom layer	0.19	Thickest layer	0.02
78:					
Lostman	40	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.02
		Bottom layer	0.19	Thickest layer	0.02

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
78:					
Kinley	35	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.02
		Bottom layer	0.12	Thickest layer	0.02
79:					
Marshes	100	Not rated		Not rated	
80:					
Meloland	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
81:					
Mohon	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kinley	35	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.02
		Bottom layer	0.12	Thickest layer	0.02
82:					
Mohon	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Poachie	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.05
83:					
Mohon	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Poachie	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.05
84:					
Nickel family	35	Fair		Fair	
		Bottom layer	0.19	Thickest layer	0.00
		Thickest layer	0.19	Bottom layer	0.04
Topawa family	30	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.19	Thickest layer	0.04
Eba family	25	Fair		Poor	
		Thickest layer	0.19	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
85:					
Orwash family-------	75	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.33
86:					
Orwash family-------	75	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.33
87:					
Penthouse----------	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.10
Gonzales----------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
88:					
Poachie----------	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.05
89:					
Poachie----------	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.05
90:					
Quilotosa----------	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.62	Bottom layer	0.02
Rock outcrop--------	20	Not rated		Not rated	
91:					
Razorback----------	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
92:					
Razorback----------	65	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.62	Thickest layer	0.00
Rock outcrop--------	20	Not rated		Not rated	
93:					
Razorback----------	60	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.62	Thickest layer	0.00

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
93:					
Rock outcrop--------	20	Not rated		Not rated	
94:					
Razorback----------	60	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.62	Thickest layer	0.00
Rock outcrop--------	20	Not rated		Not rated	
95:					
Razorback----------	45	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.62	Thickest layer	0.00
Rock outcrop--------	20	Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated	
96:					
Razorback----------	45	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.62	Thickest layer	0.00
Rock outcrop--------	20	Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated	
97:					
Rillino----------	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.07
98:					
Rillino----------	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.07
Tres Hermanos-------	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
99:					
Ripley----------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.06

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
100:					
Riverbend family----	75	Fair		Fair	
		Bottom layer	0.19	Thickest layer	0.04
		Thickest layer	0.19	Bottom layer	0.10
101:					
Riverbend----------	75	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.00	Bottom layer	0.10
102:					
Riverwash----------	70	Not rated		Not rated	
Fluvaquents---------	20	Not rated		Not rated	
103:					
Rock outcrop--------	45	Not rated		Not rated	
Hyder----------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
104:					
Rock outcrop--------	65	Not rated		Not rated	
Razorback----------	30	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.62	Thickest layer	0.00
105:					
Rock outcrop--------	45	Not rated		Not rated	
Sunrock----------	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.04
106:					
Romero----------	45	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00
106:					
Chiricahua----------	30	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Rock outcrop--------	20	Not rated		Not rated	

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
107:					
Romero	60	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00
Lampshire	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
Rock outcrop	15	Not rated		Not rated	
108:					
Rositas family	40	Poor		Fair	
		Thickest layer	0.00	Bottom layer	0.31
		Bottom layer	0.00	Thickest layer	0.34
Superstition	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.25
		Thickest layer	0.00	Thickest layer	0.25
Torriorthents	25	Not rated		Not rated	
109:					
Rositas	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
Superstition family-	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.25
		Thickest layer	0.00	Thickest layer	0.25
Torriorthents	20	Not rated		Not rated	
110:					
Stagecoach	75	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.02
111:					
Stagecoach	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.02
112:					
Stagecoach	80	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.02

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
113:					
Stagecoach----------	80	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.02
114:					
Stagecoach----------	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.02
Topawa family-------	30	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.00
		Thickest layer	0.19	Thickest layer	0.04
Eba----------	25	Fair		Fair	
		Bottom layer	0.12	Thickest layer	0.00
		Thickest layer	0.12	Bottom layer	0.04
115:					
Stagecoach----------	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.02
Topawa family-------	30	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.00
		Thickest layer	0.19	Thickest layer	0.04
Eba----------	25	Fair		Fair	
		Bottom layer	0.12	Thickest layer	0.00
		Thickest layer	0.12	Bottom layer	0.04
116:					
Sunrock----------	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.04
117:					
Sunrock----------	70	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.04
Rock outcrop--------	20	Not rated		Not rated	
118:					
Tombstone----------	35	Fair		Poor	
		Bottom layer	0.19	Bottom layer	0.00
		Thickest layer	0.19	Thickest layer	0.00
118:					
Caralampi----------	30	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.18	Thickest layer	0.03

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
118:					
Eloma	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
119:					
Torriorthents	75	Not rated		Not rated	
120:					
Torriorthents	75	Not rated		Not rated	
121:					
Tumarion	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
122:					
Tumarion	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
123:					
Tyro	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.06
124:					
Tyro	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.06
125:					
Vekol family	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.64
126:					
Vekol family	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.19	Bottom layer	0.64
127:					
Water	100	Not rated		Not rated	
128:					
Whitehills	80	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
129:					
Whitehills----------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
130:					
White House family--	85	Fair		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.12	Bottom layer	0.10
131:					
White House---------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.10
132:					
Wikieup----------	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.05
Mutang----------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop--------	20	Not rated		Not rated	
133:					
Mutang----------	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wikieup----------	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop--------	15	Not rated		Not rated	
134:					
Wikieup----------	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.05
Rock outcrop--------	25	Not rated		Not rated	
135:					
Yahana family-------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.28

Table 11.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
136:					
Tumarion	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nickel family	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
137:					
Valena	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
Carri family	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
138:					
Nodman	65	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rock outcrop	20	Not rated		Not rated	
139:					
Nodman	60	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Romero family	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Akela----------	45	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Cobble content	0.00	Cobble content	0.00	Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
2:							
Akela----------	45	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Cobble content	0.00	Cobble content	0.00	Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
3:							
Alko family---------	85	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Carbonate content	0.68			Carbonate content	0.92
		Low content of organic matter	0.88			Slope	0.96

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
4:							
Alko family---------	85	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Carbonate content	0.68			Carbonate content	0.92
		Low content of organic matter	0.88			Slope	0.96
5:							
Amole----------	75	Fair		Good		Fair	
		Too sandy	0.09			Too sandy	0.09
		Droughty	0.25			Rock fragments	0.88
		Low content of organic matter	0.88				
6:							
Amole----------	75	Fair		Good		Fair	
		Too sandy	0.09			Too sandy	0.09
		Droughty	0.25			Rock fragments	0.88
		Low content of organic matter	0.88				
7:							
Anthony----------	45	Fair		Good		Poor	
		Droughty	0.51			Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.50
Dudleyville---------	30	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.01			Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
8:							
Aquarius----------	45	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.88	Shrink-swell	0.14	Rock fragments	0.00
		Water erosion	0.99	Slope	0.82	Slope	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
8:							
Akela	30	Poor		Poor		Poor	
		Cobble content	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.00	Cobble content	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Stone content	0.95	Slope	0.16
Rock outcrop	20	Not rated		Not rated		Not rated	
9:							
Arizo	40	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Too sandy	0.02			Rock fragments	0.00
		Low content of organic matter	0.88			Too sandy	0.02
Franconia	30	Fair		Good		Fair	
		Too sandy	0.02			Too sandy	0.02
		Droughty	0.25			Hard to reclaim, rock fragments	0.50
		Low content of organic matter	0.88			Rock fragments	0.97
Riverwash	20	Not rated		Not rated		Not rated	
10:							
Arizo	40	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Too sandy	0.02			Rock fragments	0.00
		Low content of organic matter	0.88			Too sandy	0.02

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
10:							
Franconia	30	Fair		Good		Fair	
		Too sandy	0.02			Too sandy	0.02
		Droughty	0.25			Hard to reclaim, rock fragments	0.50
		Low content of organic matter	0.88			Rock fragments	0.97
Riverwash	20	Not rated		Not rated		Not rated	
11:							
Bartmus	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
						Slope	0.96
12:							
Bonita family	85	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.86	Too clayey	0.00
		Carbonate content	0.80			Hard to reclaim, rock fragments	0.00
						Rock fragments	0.72
13:							
Bonita family	60	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.86	Too clayey	0.00
		Carbonate content	0.80			Hard to reclaim, rock fragments	0.00
						Slope	0.16
Gonzales	30	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Slope	0.00	Too clayey	0.00
		Depth to bedrock	0.00	Shrink-swell	0.12	Depth to bedrock	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
14:							
Brazito family------	75	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Droughty	0.35				
15:							
Bucklebar----------	80	Fair		Fair		Good	
		Low content of organic matter	0.88	Shrink-swell	0.99		
16:							
Cacique family------	75	Fair		Good		Poor	
		Droughty	0.68			Rock fragments	0.00
		Too clayey	0.76			Too clayey	0.54
		Low content of organic matter	0.88				
17:							
Castaneda----------	75	Fair		Good		Poor	
		Droughty	0.22			Rock fragments	0.00
		Carbonate content	0.68			Carbonate content	0.68
		Low content of organic matter	0.88				
18:							
Castaneda----------	75	Fair		Good		Poor	
		Droughty	0.22			Rock fragments	0.00
		Carbonate content	0.68			Carbonate content	0.68
		Low content of organic matter	0.88				
19:							
Carrizo family------	75	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
20:							
Carrizo family------	65	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
Riverwash----------	20	Not rated		Not rated		Not rated	
21:							
Carrizo----------	75	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
		Too sandy	0.47			Too sandy	0.47
Riverwash----------	15	Not rated		Not rated		Not rated	
22:							
Carrizo----------	65	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Too sandy	0.03			Rock fragments	0.00
		Low content of organic matter	0.88			Too sandy	0.03
Riverwash----------	20	Not rated		Not rated		Not rated	
23:							
Cave----------	75	Poor		Fair		Poor	
		Droughty	0.00	Slope	0.08	Rock fragments	0.00
		Low content of organic matter	0.88			Slope	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
24:							
Cave	75	Poor		Fair		Poor	
		Droughty	0.00	Slope	0.08	Rock fragments	0.00
		Low content of organic matter	0.88			Slope	0.00
25:							
Cellar	50	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.88			Depth to bedrock	0.00
Rock outcrop	25	Not rated		Not rated		Not rated	
26:							
Cellar	50	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.88			Depth to bedrock	0.00
Rock outcrop	25	Not rated		Not rated		Not rated	
27:							
Cellar	45	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Slope	0.50	Depth to bedrock	0.00
		Low content of organic matter	0.88			Slope	0.00
27:							
Topock	30	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Slope	0.50	Too clayey	0.00
		Too clayey	0.00	Shrink-swell	0.87	Slope	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
27:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
28:							
Cherioni----------	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Low content of organic matter	0.88			Too clayey	0.70
29:							
Chuckawalla---------	65	Fair		Good		Poor	
		Droughty	0.04			Salinity	0.00
		Salinity	0.72			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
Riverbend----------	25	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Too sandy	0.02			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.50			Too sandy	0.02
30:							
Chuckawalla family--	65	Fair		Good		Poor	
		Droughty	0.38			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
		Carbonate content	0.92			Carbonate content	0.92
Riverbend family----	25	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Too sandy	0.02			Rock fragments	0.00
		Low content of organic matter	0.88			Too sandy	0.02

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
31:							
Cipriano	85	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Carbonate content	0.46			Carbonate content	0.46
		Low content of organic matter	0.88				
32:							
Cline	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Shrink-swell	0.87	Depth to bedrock	0.00
		Low content of organic matter	0.50			Carbonate content	0.92
33:							
Cline	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Shrink-swell	0.87	Depth to bedrock	0.00
		Low content of organic matter	0.50			Carbonate content	0.92
34:							
Continental	50	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.59	Too clayey	0.00
		Carbonate content	0.68				
		Low content of organic matter	0.88				
Tres Hermanos	25	Fair		Good		Poor	
		Carbonate content	0.80			Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.50
						Slope	0.96
35:							
Continental	50	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.59	Too clayey	0.00
		Carbonate content	0.68			Slope	0.96
		Low content of organic matter	0.88				

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
35:							
Tres Hermanos-------	25	Fair		Good		Poor	
		Carbonate content	0.80			Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.50
						Slope	0.96
36:							
Continental---------	50	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.59	Too clayey	0.00
		Carbonate content	0.68				
		Low content of organic matter	0.88				
Rillino----------	35	Fair		Good		Poor	
		Too sandy	0.47			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.80			Rock fragments	0.00
		Low content of organic matter	0.88			Too sandy	0.47
37:							
Continental---------	50	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.59	Too clayey	0.00
		Carbonate content	0.68				
		Low content of organic matter	0.88				
37:							
Rillino----------	35	Fair		Good		Poor	
		Carbonate content	0.80			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
		Droughty	0.96			Slope	0.96

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
38:							
Coolidge	40	Fair		Good		Fair	
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.50
		Carbonate content	0.92			Carbonate content	0.92
						Rock fragments	0.97
Denure	35	Fair		Good		Fair	
		Low content of organic matter	0.88			Rock fragments	0.97
		Droughty	0.98				
39:							
Coolidge family	40	Fair		Good		Fair	
		Droughty	0.67			Hard to reclaim, rock fragments	0.50
		Carbonate content	0.80			Carbonate content	0.80
		Low content of organic matter	0.88			Rock fragments	0.97
Denure family	35	Fair		Good		Fair	
		Droughty	0.74			Rock fragments	0.97
		Low content of organic matter	0.88				
40:							
Courthouse family	45	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
						Depth to bedrock	0.00
40:							
Rock outcrop	20	Not rated		Not rated		Not rated	
Rubble land	20	Not rated		Not rated		Not rated	

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
41:							
Courthouse family---	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
						Depth to bedrock	0.00
Rock outcrop--------	30	Not rated		Not rated		Not rated	
Wagonbow----------	20	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.23	Slope	0.00
				Slope	0.50	Too clayey	0.00
						Rock fragments	0.97
42:							
Far----------	70	Poor		Poor		Poor	
		Stone content	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Droughty	0.00	Slope	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Stone content	0.03	Slope	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
43:							
Dutchflat----------	80	Fair		Fair		Good	
		Low content of organic matter	0.88	Shrink-swell	0.99		
44:							
Dutchflat----------	80	Fair		Fair		Poor	
		Low content of organic matter	0.88	Shrink-swell	0.99	Hard to reclaim, rock fragments	0.00
						Rock fragments	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
45:							
Gadsden----------	80	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.20	Too clayey	0.00
		Sodium content	0.03			Sodium content	0.02
		Low content of organic matter	0.88			Salinity	0.12
46:							
Gila----------	50	Fair		Fair		Fair	
		Water erosion	0.37	Shrink-swell	0.99	Too clayey	0.54
		Too clayey	0.76				
		Low content of organic matter	0.88				
Glendale----------	30	Fair		Fair		Fair	
		Too clayey	0.88	Shrink-swell	0.99	Too clayey	0.63
		Low content of organic matter	0.88				
		Water erosion	0.90				
47:							
Gila----------	50	Fair		Fair		Fair	
		Water erosion	0.37	Shrink-swell	0.99	Too clayey	0.54
		Too clayey	0.76				
		Low content of organic matter	0.88				
Glendale----------	30	Fair		Fair		Fair	
		Too clayey	0.88	Shrink-swell	0.99	Too clayey	0.63
		Low content of organic matter	0.88				
		Water erosion	0.90				
48:							
Goldroad----------	60	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.88			Depth to bedrock	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
48:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
49:							
Gonzales----------	60	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Low strength	0.00	Too clayey	0.00
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
50:							
Goodsprings family--	75	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.12				
51:							
Goodsprings family--	75	Poor		Good		Poor	
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.12				
52:							
Goodsprings family--	75	Poor		Fair		Poor	
		Droughty	0.00	Slope	0.08	Rock fragments	0.00
		Low content of organic matter	0.12			Slope	0.00
53:							
Goodsprings family--	75	Poor		Fair		Poor	
		Droughty	0.00	Slope	0.08	Rock fragments	0.00
		Low content of organic matter	0.12			Slope	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
54:							
Graham----------	60	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Low strength	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Shrink-swell	0.12	Slope	0.96
Arivaca----------	25	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.17	Low strength	0.00	Depth to bedrock	0.58
		Low content of organic matter	0.50	Shrink-swell	0.13	Slope	0.96
55:							
Graham----------	60	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Slope	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Low strength	0.00	Slope	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
56:							
Gunsight----------	75	Fair		Good		Poor	
		Carbonate content	0.80			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
						Carbonate content	0.80
57:							
Gunsight----------	85	Fair		Poor		Poor	
		Carbonate content	0.80	Slope	0.00	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
						Slope	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
58:							
Hassell family------	50	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.47	Low strength	0.00	Slope	0.00
		Depth to bedrock	0.58	Slope	0.50	Depth to bedrock	0.58
Lampshire----------	25	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
						Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
59:							
Holtville----------	75	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.93	Too clayey	0.00
		Sodium content	0.03			Sodium content	0.02
		Water erosion	0.37			Salinity	0.12
60:							
Huevi----------	75	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.80			Rock fragments	0.00
		Low content of organic matter	0.88			Slope	0.96
61:							
Huevi----------	85	Poor		Fair		Poor	
		Droughty	0.00	Slope	0.08	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
						Slope	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
62:							
Akela----------	60	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.88			Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
63:							
Hyder----------	50	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Cobble content	0.04	Cobble content	0.00	Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
64:							
Indio----------	85	Fair		Good		Fair	
		Sodium content	0.03			Sodium content	0.02
		Low content of organic matter	0.88			Salinity	0.12
		Water erosion	0.90				
65:							
Ireteba family------	45	Fair		Good		Poor	
		Droughty	0.61			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
65:							
Arizo	30	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Too sandy	0.02			Rock fragments	0.00
		Low content of organic matter	0.88			Too sandy	0.02
66:							
Kinley	75	Poor		Poor		Poor	
		Carbonate content	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
						Rock fragments	0.97
67:							
Kinley	50	Fair		Good		Poor	
		Carbonate content	0.08			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Carbonate content	0.92
						Slope	0.96
Poachie	35	Fair		Good		Fair	
		Carbonate content	0.68			Hard to reclaim, rock fragments	0.50
		Low content of organic matter	0.88			Rock fragments	0.97
68:							
Kofa	85	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.96	Too clayey	0.00
		Sodium content	0.03			Sodium content	0.02
		Low content of organic matter	0.88			Salinity	0.12

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69:							
Dudleyville---------	40	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.01			Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
Vinton----------	30	Fair		Good		Poor	
		Droughty	0.03			Hard to reclaim, rock fragments	0.00
		Too sandy	0.03			Too sandy	0.03
		Low content of organic matter	0.88				
Riverwash----------	20	Not rated		Not rated		Not rated	
70:							
Dudleyville---------	40	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.01			Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
Vinton----------	30	Fair		Good		Poor	
		Droughty	0.03			Hard to reclaim, rock fragments	0.00
		Too sandy	0.03			Too sandy	0.03
		Low content of organic matter	0.88				
Riverwash----------	20	Not rated		Not rated		Not rated	
71:							
Lagunita----------	85	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.18
		Droughty	0.00			Rock fragments	0.97
		Too sandy	0.18				

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72:							
Lagunita----------	60	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.18
		Droughty	0.00			Rock fragments	0.97
		Too sandy	0.18				
Ripley----------	25	Fair		Good		Poor	
		Low content of organic matter	0.88			Rock fragments	0.00
		Salinity	0.97			Salinity	0.00
						Hard to reclaim, rock fragments	0.50
73:							
Lampshire----------	65	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
						Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
74:							
Lampshire----------	65	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
						Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
75:							
Lampshire----------	45	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Stone content	0.02	Stone content	0.98	Rock fragments	0.00
Rock outcrop--------	40	Not rated		Not rated		Not rated	

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
76:							
Lostman	80	Fair		Good		Poor	
		Droughty	0.30			Hard to reclaim, rock fragments	0.00
						Rock fragments	0.00
77:							
Lostman	80	Fair		Good		Poor	
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
						Rock fragments	0.97
78:							
Lostman	40	Fair		Good		Poor	
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
						Rock fragments	0.97
Kinley	35	Fair		Good		Poor	
		Carbonate content	0.08			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Carbonate content	0.92
						Rock fragments	0.97
79:							
Marshes	100	Not rated		Not rated		Not rated	
80:							
Meloland	85	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.38	Too clayey	0.00
		Sodium content	0.03			Salinity	0.00
		Carbonate content	0.46			Sodium content	0.02

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
81:							
Mohon	50	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.99	Too clayey	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.50
		Carbonate content	0.92			Carbonate content	0.92
Kinley	35	Fair		Good		Poor	
		Carbonate content	0.08			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Slope	0.84
						Carbonate content	0.92
82:							
Mohon	50	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.99	Too clayey	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.50
		Carbonate content	0.92			Carbonate content	0.92
Poachie	25	Fair		Good		Fair	
		Carbonate content	0.68			Hard to reclaim, rock fragments	0.50
		Low content of organic matter	0.88			Slope	0.96
						Rock fragments	0.97
83:							
Mohon	50	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.99	Too clayey	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.50
		Carbonate content	0.92			Carbonate content	0.92

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
83:							
Poachie	25	Fair		Good		Fair	
		Carbonate content	0.68			Hard to reclaim, rock fragments	0.50
		Low content of organic matter	0.88			Slope	0.96
						Rock fragments	0.97
84:							
Nickel family	35	Fair		Poor		Poor	
		Droughty	0.41	Slope	0.00	Slope	0.00
		Carbonate content	0.80			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
Topawa family	30	Fair		Poor		Poor	
		Droughty	0.23	Slope	0.00	Slope	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
						Rock fragments	0.00
Eba family	25	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.82	Too clayey	0.00
		Droughty	0.27	Shrink-swell	0.94	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
85:							
Orwash family	75	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.75			Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.50

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
86:							
Orwash family-------	75	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.75			Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.50
87:							
Penthouse----------	50	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.99	Too clayey	0.00
		Carbonate content	0.92			Hard to reclaim, rock fragments	0.00
						Rock fragments	0.00
Gonzales----------	25	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Shrink-swell	0.12	Depth to bedrock	0.00
		Depth to bedrock	0.00			Slope	0.00
88:							
Poachie----------	80	Fair		Good		Fair	
		Carbonate content	0.68			Hard to reclaim, rock fragments	0.50
		Low content of organic matter	0.88			Rock fragments	0.97
89:							
Poachie----------	80	Fair		Good		Fair	
		Carbonate content	0.68			Hard to reclaim, rock fragments	0.50
		Low content of organic matter	0.88			Rock fragments	0.97
90:							
Quilotosa----------	60	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.88			Depth to bedrock	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
90:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
91:							
Razorback----------	90	Poor		Poor		Poor	
		Depth to bedrock	0.00	Slope	0.00	Slope	0.00
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
						Depth to bedrock	0.00
92:							
Razorback----------	65	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Low content of organic matter	0.88			Slope	0.16
Rock outcrop--------	20	Not rated		Not rated		Not rated	
93:							
Razorback----------	60	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Stone content	0.75			Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
94:							
Razorback----------	60	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.88			Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
95:							
Razorback----------	45	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.88			Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
96:							
Razorback----------	45	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.88			Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
97:							
Rillino----------	75	Fair		Poor		Poor	
		Carbonate content	0.80	Slope	0.00	Slope	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
		Droughty	0.96			Rock fragments	0.00
98:							
Rillino----------	50	Fair		Good		Poor	
		Carbonate content	0.80			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
		Droughty	0.96			Slope	0.96

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
98:							
Tres Hermanos-------	35	Fair		Good		Poor	
		Carbonate content	0.80			Rock fragments	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.50
						Carbonate content	0.97
99:							
Ripley----------	85	Fair		Good		Poor	
		Low content of organic matter	0.88			Rock fragments	0.00
		Salinity	0.97			Salinity	0.00
		Water erosion	0.99			Hard to reclaim, rock fragments	0.50
100:							
Riverbend family----	75	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Too sandy	0.02			Rock fragments	0.00
		Low content of organic matter	0.88			Too sandy	0.02
101:							
Riverbend----------	75	Poor		Good		Poor	
		Droughty	0.00			Hard to reclaim, rock fragments	0.00
		Too sandy	0.06			Rock fragments	0.00
		Low content of organic matter	0.88			Too sandy	0.06
102:							
Riverwash----------	70	Not rated		Not rated		Not rated	
Fluvaquents---------	20	Not rated		Not rated		Not rated	

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
103:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Hyder----------	40	Poor		Poor		Poor	
		Depth to bedrock	0.00	Cobble content	0.00	Depth to bedrock	0.00
		Droughty	0.00	Slope	0.00	Slope	0.00
		Cobble content	0.04	Depth to bedrock	0.00	Rock fragments	0.00
104:							
Rock outcrop--------	65	Not rated		Not rated		Not rated	
Razorback----------	30	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Droughty	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
105:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Sunrock----------	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Low content of organic matter	0.50			Slope	0.00
106:							
Romero----------	45	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Droughty	0.00	Slope	0.50	Depth to bedrock	0.00
						Slope	0.00
Chiricahua----------	30	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Shrink-swell	0.12	Too clayey	0.00
		Depth to bedrock	0.00	Low strength	0.22	Depth to bedrock	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
106:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
107:							
Romero----------	60	Poor		Poor		Poor	
		Droughty	0.00	Slope	0.00	Slope	0.00
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
						Rock fragments	0.00
Lampshire----------	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
						Depth to bedrock	0.00
Rock outcrop--------	15	Not rated		Not rated		Not rated	
108:							
Rositas family------	40	Poor		Fair		Poor	
		Wind erosion	0.00	Slope	0.82	Too sandy	0.00
		Too sandy	0.00			Slope	0.00
		Low content of organic matter	0.12				
Superstition--------	25	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Carbonate content	0.92
		Droughty	0.09			Rock fragments	0.97
Torriorthents-------	25	Not rated		Not rated		Not rated	
109:							
Rositas----------	40	Poor		Fair		Poor	
		Too sandy	0.00	Slope	0.82	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Droughty	0.35				

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
109:							
Superstition family-	25	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Carbonate content	0.92
		Droughty	0.09			Rock fragments	0.97
Torriorthents-------	20	Not rated		Not rated		Not rated	
110:							
Stagecoach----------	75	Fair		Good		Poor	
		Droughty	0.74			Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
		Carbonate content	0.92			Carbonate content	0.92
111:							
Stagecoach----------	85	Fair		Poor		Poor	
		Droughty	0.74	Slope	0.00	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
		Carbonate content	0.92			Slope	0.00
112:							
Stagecoach----------	80	Fair		Fair		Poor	
		Droughty	0.71	Slope	0.50	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
		Carbonate content	0.92			Slope	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113:							
Stagecoach----------	80	Fair		Fair		Poor	
		Droughty	0.71	Slope	0.50	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
		Carbonate content	0.92			Slope	0.00
114:							
Stagecoach----------	35	Fair		Poor		Poor	
		Droughty	0.69	Slope	0.00	Slope	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.92			Rock fragments	0.00
Topawa family-------	30	Fair		Poor		Poor	
		Droughty	0.04	Slope	0.00	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88	Cobble content	0.31	Rock fragments	0.00
						Slope	0.00
Eba----------	25	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.82	Hard to reclaim, rock fragments	0.00
		Droughty	0.02	Shrink-swell	0.99	Rock fragments	0.00
		Low content of organic matter	0.88			Too clayey	0.00
115:							
Stagecoach----------	35	Fair		Poor		Poor	
		Droughty	0.69	Slope	0.00	Slope	0.00
		Low content of organic matter	0.88			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.92			Rock fragments	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
115:							
Topawa family-------	30	Fair		Poor		Poor	
		Droughty	0.04	Slope	0.00	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88	Cobble content	0.31	Rock fragments	0.00
						Slope	0.00
Eba----------	25	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.82	Hard to reclaim, rock fragments	0.00
		Droughty	0.02	Shrink-swell	0.99	Rock fragments	0.00
		Low content of organic matter	0.88			Too clayey	0.00
116:							
Sunrock----------	90	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.50			Depth to bedrock	0.00
117:							
Sunrock----------	70	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.50			Depth to bedrock	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
118:							
Tombstone----------	35	Fair		Poor		Poor	
		Droughty	0.09	Slope	0.00	Slope	0.00
		Carbonate content	0.92			Hard to reclaim, rock fragments	0.00
						Rock fragments	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
118:							
Caralampi	30	Fair		Poor		Poor	
		Droughty	0.22	Slope	0.00	Slope	0.00
		Low content of organic matter	0.50			Hard to reclaim, rock fragments	0.00
		Carbonate content	0.80			Rock fragments	0.00
Eloma	25	Poor		Poor		Poor	
		Too clayey	0.00	Cobble content	0.00	Hard to reclaim, rock fragments	0.00
		Droughty	0.16	Shrink-swell	0.39	Rock fragments	0.00
		Cobble content	0.17	Slope	0.82	Too clayey	0.00
119:							
Torriorthents	75	Not rated		Not rated		Not rated	
120:							
Torriorthents	75	Not rated		Not rated		Not rated	
121:							
Tumarion	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to cemented pan	0.00	Depth to cemented pan	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00			Depth to cemented pan	0.00
122:							
Tumarion	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Carbonate content	0.46			Carbonate content	0.46
123:							
Tyro	90	Poor		Fair		Poor	
		Droughty	0.00	Slope	0.68	Rock fragments	0.00
		Carbonate content	0.68			Slope	0.00
		Low content of organic matter	0.88				

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
124:							
Tyro	85	Poor		Fair		Poor	
		Droughty	0.00	Stone content	0.99	Rock fragments	0.00
		Carbonate content	0.68				
		Low content of organic matter	0.88				
125:							
Vekol family	85	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.99	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
		Droughty	0.88			Too clayey	0.00
126:							
Vekol family	85	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.99	Hard to reclaim, rock fragments	0.00
		Low content of organic matter	0.88			Rock fragments	0.00
		Droughty	0.88			Too clayey	0.00
127:							
Water	100	Not rated		Not rated		Not rated	
128:							
Whitehills	80	Poor		Poor		Poor	
		Droughty	0.00	Depth to cemented pan	0.00	Rock fragments	0.00
		Depth to cemented pan	0.29			Depth to cemented pan	0.29
		Carbonate content	0.80			Too clayey	0.70
129:							
Whitehills	80	Poor		Fair		Poor	
		Droughty	0.00			Rock fragments	0.00
		Carbonate content	0.80			Too clayey	0.70
		Low content of organic matter	0.88			Slope	0.96

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
130:							
White House family--	85	Fair		Fair		Poor	
		Droughty	0.86	Shrink-swell	0.81	Rock fragments	0.00
						Hard to reclaim, rock fragments	0.50
						Slope	0.96
131:							
White House---------	85	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.91	Too clayey	0.00
						Hard to reclaim, rock fragments	0.50
						Slope	0.96
132:							
Wikieup----------	45	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Slope	0.50	Rock fragments	0.00
		Low content of organic matter	0.50			Slope	0.00
Mutang----------	30	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Low strength	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Slope	0.50	Rock fragments	0.00
Rock outcrop--------	20	Not rated		Not rated		Not rated	
133:							
Mutang----------	55	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Low strength	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Shrink-swell	0.22	Rock fragments	0.00
Wikieup----------	25	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Slope	0.92	Depth to bedrock	0.00
		Low content of organic matter	0.32			Slope	0.00

Table 12.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
133:							
Rock outcrop--------	15	Not rated		Not rated		Not rated	
134:							
Wikieup----------	50	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
		Low content of organic matter	0.50			Rock fragments	0.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
135:							
Yahana family-------	85	Poor		Fair		Poor	
		Salinity	0.00	Shrink-swell	0.77	Sodium content	0.00
		Sodium content	0.00			Salinity	0.00
		Too alkaline	0.00				
Rock outcrop--------	20	Not rated		Not rated		Not rated	
139:							
Nodman----------	60	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Low content of organic matter	0.12	Shrink-swell	0.78	Depth to bedrock	0.00
Romero family-------	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12			Rock fragments	0.00

Table 13.--Ponds and Embankments

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Akela----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Content of large stones	1.00		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
2:							
Akela----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Content of large stones	1.00		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
3:							
Alko family---------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.62		
4:							
Alko family---------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.62		
5:							
Amole----------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
6:							
Amole	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
7:							
Anthony	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.05	No ground water	1.00
Dudleyville	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.61	No ground water	1.00
8:							
Aquarius	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.08	Hard to pack	0.31	No ground water	1.00
		Seepage	0.05				
Akela	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Content of large stones	1.00	No ground water	1.00
		Slope	0.01	Thin layer	1.00		
Rock outcrop	20	Not rated		Not rated		Not rated	
9:							
Arizo	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
Franconia	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	No ground water	1.00
Riverwash	20	Not rated		Not rated		Not rated	
10:							
Arizo	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
Franconia	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	No ground water	1.00
Riverwash	20	Not limited		Not rated		Not rated	

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
11:							
Bartmus----------	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	1.00	Seepage	0.19		
12:							
Bonita family-------	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.40	No ground water	1.00
				Seepage	0.12		
13:							
Bonita family-------	60	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.40	No ground water	1.00
		Slope	0.01	Seepage	0.12		
Gonzales----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28				
14:							
Brazito family------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	No ground water	1.00
15:							
Bucklebar----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.05	No ground water	1.00
16:							
Cacique family------	75	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.70	No ground water	1.00
		Depth to cemented pan	0.70				
17:							
Castaneda----------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.81	No ground water	1.00
		Depth to cemented pan	0.81	Seepage	0.56		

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18:							
Castaneda----------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.81	No ground water	1.00
		Depth to cemented pan	0.81	Seepage	0.56		
19:							
Carrizo family------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.61	No ground water	1.00
20:							
Carrizo family------	65	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.61	No ground water	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	
21:							
Carrizo----------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	No ground water	1.00
Riverwash----------	15	Not limited		Not rated		Not rated	
22:							
Carrizo----------	65	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	
23:							
Cave----------	75	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.62		
		Slope	0.21				
24:							
Cave----------	75	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.62		
		Slope	0.21				

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25:							
Cellar----------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.88	Seepage	0.19		
Rock outcrop--------	25	Not rated		Not rated		Not rated	
26:							
Cellar----------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.88	Seepage	0.19		
Rock outcrop--------	25	Not rated		Not rated		Not rated	
27:							
Cellar----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.12	Seepage	0.19		
Topock----------	30	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.99	Thin layer	1.00	No ground water	1.00
		Slope	0.12				
Rock outcrop--------	20	Not rated		Not rated		Not rated	
28:							
Cherioni----------	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	1.00	Seepage	0.19		
29:							
Chuckawalla---------	65	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Salinity	0.28	No ground water	1.00
				Seepage	0.19		
Riverbend----------	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	No ground water	1.00

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30:							
Chuckawalla family--	65	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
Riverbend family----	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
31:							
Cipriano----------	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
				Seepage	0.19		
32:							
Cline----------	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	1.00	Seepage	0.19		
33:							
Cline----------	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	1.00	Seepage	0.19		
34:							
Continental---------	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.05	Piping	0.50	No ground water	1.00
Tres Hermanos-------	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	No ground water	1.00
35:							
Continental---------	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.05	Piping	0.50	No ground water	1.00
Tres Hermanos-------	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	No ground water	1.00

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
36:							
Continental---------	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.05	Piping	0.50	No ground water	1.00
Rillino----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
37:							
Continental---------	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.05	Piping	0.50	No ground water	1.00
Rillino----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
38:							
Coolidge----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	No ground water	1.00
Denure----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.06	No ground water	1.00
39:							
Coolidge family-----	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	No ground water	1.00
Denure family-------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.07	No ground water	1.00
40:							
Courthouse family---	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Seepage	0.19		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
41:							
Courthouse family---	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.94	Seepage	0.19		
Rock outcrop--------	30	Not rated		Not rated		Not rated	
Wagonbow----------	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.12	Seepage	0.19	No ground water	1.00
		Seepage	0.05				
42:							
Far----------	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.41	Content of large stones	0.58		
				Seepage	0.19		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
43:							
Dutchflat----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.05	No ground water	1.00
44:							
Dutchflat----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
45:							
Gadsden----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.98	No ground water	1.00
46:							
Gila----------	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	No ground water	1.00
Glendale----------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.98	No ground water	1.00
				Seepage	0.61		

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47:							
Gila----------	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	No ground water	1.00
Glendale----------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.98	No ground water	1.00
				Seepage	0.61		
48:							
Goldroad----------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.88	Seepage	0.62		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
49:							
Gonzales----------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28				
Rock outcrop--------	25	Not rated		Not rated		Not rated	
50:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.62		
51:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.62		
52:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.62		
		Slope	0.21				

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
53:							
Goodsprings family--	75	Very limited		Very limited		Very limited	
		Seepage	1.00	Thin layer	1.00	No ground water	1.00
		Depth to cemented pan	1.00	Seepage	0.62		
		Slope	0.21				
54:							
Graham----------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
				Piping	0.11		
Arivaca----------	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to bedrock	0.85	Thin layer	0.85	No ground water	1.00
		Seepage	0.05				
55:							
Graham----------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28	Piping	0.11		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
56:							
Gunsight----------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
57:							
Gunsight----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
		Slope	0.28				
58:							
Hassell family------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.12	Thin layer	0.85	No ground water	1.00
		Depth to bedrock	0.11	Piping	0.01		
		Seepage	0.03				
Lampshire----------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28	Seepage	0.12		

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
58:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
59:							
Holtville----------	75	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	No ground water	1.00
				Seepage	0.25		
60:							
Huevi----------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
61:							
Huevi----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.21				
62:							
Akela----------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.88	Seepage	0.31		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
63:							
Hyder----------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Content of large stones	1.00		
				Seepage	0.19		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
64:							
Indio----------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	No ground water	1.00
				Seepage	0.64		

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65:							
Ireteba family------	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
Arizo----------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.62	No ground water	1.00
66:							
Kinley----------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
		Slope	0.28				
67:							
Kinley----------	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
Poachie----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.05	No ground water	1.00
68:							
Kofa----------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	No ground water	1.00
				Seepage	0.12		
69:							
Dudleyville---------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.61	No ground water	1.00
Vinton----------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	
70:							
Dudleyville---------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.61	No ground water	1.00
Vinton----------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
Riverwash----------	20	Not rated		Not rated		Not rated	

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
71:							
Lagunita----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	No ground water	1.00
72:							
Lagunita----------	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.54	No ground water	1.00
Ripley----------	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.06	No ground water	1.00
				Salinity	0.03		
73:							
Lampshire----------	65	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.88	Seepage	0.02		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
74:							
Lampshire----------	65	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Seepage	0.12		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
75:							
Lampshire----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.82	Piping	1.00		
				Content of large stones	0.98		
Rock outcrop--------	40	Not rated		Not rated		Not rated	

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76:							
Lostman	80	Very limited Seepage	 1.00	Somewhat limited Seepage	 0.02	Very limited No ground water	 1.00
77:							
Lostman	80	Very limited Seepage	 1.00	Somewhat limited Seepage	 0.19	Very limited No ground water	 1.00
78:							
Lostman	40	Very limited Seepage	 1.00	Somewhat limited Seepage	 0.19	Very limited No ground water	 1.00
Kinley	35	Very limited Seepage	 1.00	Somewhat limited Seepage	 0.12	Very limited No ground water	 1.00
79:							
Marshes	100	Not rated		Not rated		Not rated	
80:							
Meloland	85	Not limited		Somewhat limited Piping Salinity	 0.98 0.03	Very limited No ground water	 1.00
81:							
Mohon	50	Somewhat limited Seepage	 0.05	Somewhat limited Piping	 0.01	Very limited No ground water	 1.00
Kinley	35	Very limited Seepage	 1.00	Somewhat limited Seepage	 0.12	Very limited No ground water	 1.00
82:							
Mohon	50	Somewhat limited Seepage	 0.05	Somewhat limited Piping	 0.01	Very limited No ground water	 1.00
Poachie	25	Very limited Seepage	 1.00	Somewhat limited Seepage	 0.05	Very limited No ground water	 1.00

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
83:							
Mohon	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.05	Piping	0.01	No ground water	1.00
Poachie	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.05	No ground water	1.00
84:							
Nickel family	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.64				
Topawa family	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.64				
Eba family	25	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.19	No ground water	1.00
		Slope	0.08				
85:							
Orwash family	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	No ground water	1.00
86:							
Orwash family	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	No ground water	1.00
87:							
Penthouse	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
Gonzales	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.03				

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
88:							
Poachie----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.05	No ground water	1.00
89:							
Poachie----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.05	No ground water	1.00
90:							
Quilotosa----------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.88	Seepage	0.62		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
91:							
Razorback----------	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28	Seepage	0.62		
92:							
Razorback----------	65	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.01	Seepage	0.62		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
93:							
Razorback----------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.94	Seepage	0.62		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
94:							
Razorback----------	60	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.94	Seepage	0.62		
Rock outcrop--------	20	Not rated		Not rated		Not rated	

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
95:							
Razorback----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Seepage	0.62		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
96:							
Razorback----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Seepage	0.62		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Rubble land---------	20	Not rated		Not rated		Not rated	
97:							
Rillino----------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.28				
98:							
Rillino----------	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
Tres Hermanos-------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.04	No ground water	1.00
99:							
Ripley----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.06	No ground water	1.00
				Salinity	0.03		
100:							
Riverbend family----	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101:							
Riverbend----------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	No ground water	1.00
102:							
Riverwash----------	70	Not rated		Not rated		Not rated	
Fluvaquents---------	20	Not limited		Not rated		Not rated	
103:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Hyder----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Content of large stones	1.00		
				Seepage	0.19		
104:							
Rock outcrop--------	65	Not rated		Not rated		Not rated	
Razorback----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.97	Seepage	0.62		
105:							
Rock outcrop--------	45	Not rated		Not rated		Not rated	
Sunrock----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Seepage	0.19		
106:							
Romero----------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.12	Seepage	0.19		
Chiricahua----------	30	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.99	Thin layer	1.00	No ground water	1.00
		Slope	0.12				

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
106:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
107:							
Romero----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.94	Seepage	0.19		
Lampshire----------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	1.00	Seepage	0.02		
Rock outcrop--------	15	Not rated		Not rated		Not rated	
108:							
Rositas family------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.34	No ground water	1.00
		Slope	0.08				
Superstition--------	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	No ground water	1.00
Torriorthents-------	25	Somewhat limited		Not rated		Not rated	
		Slope	0.94				
		Depth to bedrock	0.81				
109:							
Rositas----------	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	No ground water	1.00
		Slope	0.08				
Superstition family-	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.25	No ground water	1.00
Torriorthents-------	20	Somewhat limited		Not rated		Not rated	
		Slope	0.94				
		Depth to bedrock	0.81				

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
110:							
Stagecoach----------	75	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
111:							
Stagecoach----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.28				
112:							
Stagecoach----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.12				
113:							
Stagecoach----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.12				
114:							
Stagecoach----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.64				
Topawa family-------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.50	Content of large stones	0.02		
Eba----------	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
		Slope	0.08				
115:							
Stagecoach----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.64				

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
115:							
Topawa family-------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.50	Content of large stones	0.02		
Eba----------	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
		Slope	0.08				
116:							
Sunrock----------	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.28	Seepage	0.62		
117:							
Sunrock----------	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.99	Seepage	0.19		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
118:							
Tombstone----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.19	No ground water	1.00
		Slope	0.64				
Caralampi----------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.18	No ground water	1.00
		Slope	0.64				
Eloma----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.08	Content of large stones	0.68	No ground water	1.00
				Seepage	0.19		
119:							
Torriorthents-------	75	Very limited		Not rated		Not rated	
		Slope	1.00				
		Depth to bedrock	0.81				

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
120:							
Torriorthents-------	75	Very limited		Not rated		Not rated	
		Slope	1.00				
		Depth to bedrock	0.81				
121:							
Tumarion----------	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	1.00	Seepage	0.56		
122:							
Tumarion----------	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	1.00	Seepage	0.56		
123:							
Tyro----------	90	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.10	Seepage	0.19		
124:							
Tyro----------	85	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
				Seepage	0.19		
125:							
Vekol family--------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	No ground water	1.00
126:							
Vekol family--------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	No ground water	1.00

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
127:							
Water	100	Not rated		Not rated		Not rated	
128:							
Whitehills	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.93	Thin layer	0.93	No ground water	1.00
		Seepage	0.70	Seepage	0.19		
129:							
Whitehills	80	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.93	Thin layer	0.93	No ground water	1.00
		Seepage	0.70	Seepage	0.19		
130:							
White House family	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.12	No ground water	1.00
131:							
White House	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	No ground water	1.00
132:							
Wikieup	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.12	Seepage	0.05		
Mutang	30	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.99	Thin layer	1.00	No ground water	1.00
		Slope	0.12				
Rock outcrop	20	Not rated		Not rated		Not rated	
133:							
Mutang	55	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.99	Thin layer	1.00	No ground water	1.00
		Slope	0.06	Hard to pack	0.08		

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
133:							
Wikieup----------	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.06				
Rock outcrop--------	15	Not rated		Not rated		Not rated	
134:							
Wikieup----------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.88	Seepage	0.05		
Rock outcrop--------	25	Not rated		Not rated		Not rated	
135:							
Yahana family-------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Salinity	1.00	No ground water	1.00
				Piping	1.00		
				Seepage	0.28		
136:							
Tumarion----------	70	Very limited		Very limited		Very limited	
		Depth to cemented pan	1.00	Thin layer	1.00	No ground water	1.00
		Depth to bedrock	0.95	Content of large stones	0.84		
		Slope	0.18	Seepage	0.03		
Nickel family-------	15	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Content of large stones	0.90	No ground water	1.00
		Slope	0.18	Seepage	0.02		
137:							
Valena----------	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
		Slope	0.01	Seepage	0.02		

Table 13.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
137:							
Rock outcrop--------	20	Not rated		Not rated		Not rated	
Carri family--------	15	Very limited		Not limited		Very limited	
		Seepage	1.00			No ground water	1.00
		Slope	0.01				
138:							
Nodman----------	65	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.84	Thin layer	1.00	No ground water	1.00
		Slope	0.50	Piping	0.60		
Rock outcrop--------	20	Not rated		Not rated		Not rated	
139:							
Nodman----------	60	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.78	Thin layer	1.00	No ground water	1.00
		Slope	0.50	Content of large stones	0.55		
				Piping	0.22		
Romero family-------	20	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.99	Thin layer	1.00	No ground water	1.00
		Slope	0.72	Content of large stones	0.75		
				Seepage	0.25		

Table 14.--Engineering Properties

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
1:												
Akela----------	0-1	Extremely cobbly loam	GC-GM, GM, SC-SM, SM	A-1, A-2, A-4	0-10	50-65	35-70	30-65	25-60	20-45	15-25	NP-5
	1-5	Extremely cobbly loam	GC-GM, GM, SC-SM, SM	A-1, A-2, A-4	0-10	50-65	35-70	30-65	25-60	20-45	15-25	NP-5
	>5	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Rubble land-----	---	---	---	---	---	---	---	---	---	---	---	---
2:												
Akela----------	0-1	Extremely cobbly loam	GC-GM, GM, SC-SM, SM	A-1, A-2, A-4	0-10	50-65	35-70	30-65	25-60	20-45	15-25	NP-5
	1-5	Extremely cobbly loam	GC-GM, GM, SC-SM, SM	A-1, A-2, A-4	0-10	50-65	35-70	30-65	25-60	20-45	15-25	NP-5
	>5	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Rubble land-----	---	---	---	---	---	---	---	---	---	---	---	---
3:												
Alko family-----	0-1	Cobbly loam	CL-ML, GM, ML, SC-SM	A-4	0-10	25-45	70-95	65-90	55-85	40-70	15-25	NP-5
	1-15	Gravelly loam	CL-ML, GC-GM, GM	A-2, A-4	0	0-10	55-80	50-75	40-70	30-55	15-25	NP-5
	15-31	Indurated			---	---	---	---	---	---	---	---
	31-60	Extremely gravelly sand	GP, GP-GM	A-1	0	0	20-30	15-25	5-20	0-5	15-25	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
4:												
Alko family-----	0-1	Cobbly loam	CL-ML, GM, ML, SC-SM	A-4	0-10	25-45	70-95	65-90	55-85	40-70	15-25	NP-5
	1-15	Gravelly loam	CL-ML, GC-GM, GM	A-2, A-4	0	0-10	55-80	50-75	40-70	30-55	15-25	NP-5
	15-31	Indurated			---	---	---	---	---	---	---	---
	31-60	Extremely gravelly sand	GP, GP-GM	A-1	0	0	20-30	15-25	5-20	0-5	15-25	NP-5
5:												
Amole-----------	0-1	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-40	15-25	NP-5
	1-19	Sandy loam	SC-SM, SM	A-1, A-2	0	0-5	80-95	75-90	35-60	15-30	15-25	NP-5
	19-60	Loamy coarse sand	SM	A-1, A-2	0	0	85-95	80-90	35-55	10-20	15-25	NP-5
6:												
Amole-----------	0-1	Sandy loam	SM, SC-SM	A-2, A-4	0	0	90-100	85-100	50-70	25-40	15-25	NP-5
	1-19	Sandy loam	SC-SM, SM	A-1, A-2	0	0-5	80-95	75-90	35-60	15-30	15-25	NP-5
	19-60	Loamy coarse sand	SM	A-1, A-2	0	0	90-100	80-90	35-55	10-20	15-25	NP-5
7:												
Anthony---------	0-1	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	1-35	Gravelly coarse sandy loam	GC-GM, GM, GP-GM	A-1	0	0-5	55-80	50-75	25-45	10-25	15-25	NP-5
	35-60	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
Dudleyville-----	0-2	Gravelly loamy sand	GM, GP-GM, SC-SM, SM	A-1, A-2	0	0	55-80	25-55	25-55	10-20	10-20	NP-5
	2-12	Gravelly loamy coarse sand	GM, SC-SM, SM, SP-SM	A-1	0	0	55-80	20-40	20-40	5-15	10-20	NP-5
	12-60	Very gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1	0	0	35-60	35-60	15-25	0-5	10-20	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
8:												
Aquarius--------	0-2	Very cobbly silt loam	GC, SC	A-2, A-4	0	30-60	45-70	40-65	30-60	25-50	26-32	7-10
	2-8	Silty clay loam	CL, ML	A-6, A-7	0	0-10	90-100	85-100	80-100	70-95	35-45	10-20
	8-24	Cobbly silty clay	CH, CL	A-6, A-7	0	30-50	80-100	75-100	70-100	65-95	35-65	15-45
	24-42	Silty clay	CH	A-7	0	0	100	100	95-100	90-95	55-60	30-40
	42-50	Silty clay	CH	A-7	0	0	100	100	95-100	90-95	55-60	30-40
	50-60	Gravelly silty clay loam	CL	A-7	0	0	75-85	65-75	60-75	55-70	40-45	15-20
Akela----------	0-1	Extremely cobbly loam	GC-GM, GM	A-1, A-2, A-4	10-15	55-60	45-55	40-50	35-50	25-40	15-25	NP-5
	1-5	Extremely cobbly loam	GC-GM, GM, SC-SM, SM	A-1, A-2, A-4	0-10	50-65	35-70	30-65	25-60	20-45	15-25	NP-5
	>5	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
9:												
Arizo----------	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-11	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	11-15	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	15-35	Extremely gravelly loamy sand	GP, GP-GC	A-1, A-2	0	0	20-30	15-25	5-20	0-10	15-30	NP-10
	35-60	Very gravelly loamy coarse sand	GP, GP-GC, GP-GM, SP	A-1, A-2	0	0	30-55	25-50	10-25	0-10	15-30	NP-10
Franconia-------	0-2	Sandy loam	SC-SM, SM	A-2, A-4	0	0	95-100	90-100	65-85	35-55	15-25	NP-5
	2-33	Loamy sand	SC, SC-SM, SM	A-1, A-2	0	0	80-100	75-100	40-75	10-30	10-25	NP-10
	33-60	Gravelly loamy sand	GM, GP-GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-25	NP-10
Riverwash-------	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
10:												
Arizo----------	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-11	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	11-15	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	15-35	Extremely gravelly loamy sand	GW, GC-GM	A-1, A-2	0	0	20-30	15-25	5-20	0-10	15-30	NP-10
	35-60	Very gravelly loamy coarse sand	GW	A-1, A-2	0	0	30-55	25-50	10-25	0-10	15-30	NP-10
Franconia-------	0-2	Sandy loam	SC-SM, SM	A-4	0	0	95-100	90-100	65-85	35-55	15-25	NP-5
	2-18	Loamy sand	SM, SC, SC-SM	A-1, A-2	0	0	80-100	75-100	40-75	10-30	10-25	NP-10
	18-33	Stratified loamy sand	SM, SC, SC-SM	A-1, A-2	0	0	80-100	75-100	40-75	10-30	10-25	NP-10
	33-60	Gravelly loamy sand	SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-25	NP-10
Riverwash-------	---	---	---	---	---	---	---	---	---	---	---	---
11:												
Bartmus---------	0-2	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-20	30-55	25-50	15-35	15-20	15-25	NP-5
	2-6	Very gravelly sandy clay loam	GC, GC-GM, GP-GC	A-1, A-2	0	0-20	30-55	25-50	25-45	10-30	25-30	5-15
	6-19	Indurated			---	---	---	---	---	---	---	---
	>19	Unweathered bedrock			---	---	---	---	---	---	---	---
12:												
Bonita family---	0-2	Very cobbly silty clay loam	CL, GC, ML, SC	A-4, A-6, A-7	0-15	45-60	60-95	55-90	50-90	45-85	0-45	NP-20
	2-35	Clay	CH, CL	A-7	0	0-10	80-95	75-90	70-90	55-85	40-55	20-35
	35-60	Very gravelly loam	GM	A-1, A-2, A-4	0	0-25	35-55	30-50	25-50	20-40	0-0	NP

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
13:												
Bonita family---	0-2	Very cobbly silty clay loam	CL, GC, ML, SC	A-4, A-6, A-7	0-15	45-60	60-95	55-90	50-90	45-85	0-45	NP-20
	2-35	Clay	CH, CL	A-7	0	0-10	80-95	75-90	70-90	55-85	40-55	20-35
	35-60	Very gravelly loam	GM	A-1, A-2, A-4	0	0-25	35-55	30-50	25-50	20-40	0-0	NP
Gonzales--------	0-1	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-2, A-4, A-6	0	35-45	65-75	55-65	45-60	25-45	25-35	5-15
	1-14	Clay, sandy clay	CH, CL	A-7	0	0-10	95-100	90-95	75-90	50-75	40-55	20-30
	14-17	Weathered bedrock			---	---	---	---	---	---	---	---
	>17	Unweathered bedrock			---	---	---	---	---	---	---	---
14:												
Brazito family--	0-7	Sand	SC-SM, SM, SP-SM	A-2, A-3	0	0	100	100	50-70	5-15	10-20	NP-5
	7-14	Very fine sand	CL-ML, ML, SC-SM, SM	A-4	0	0	100	100	75-90	35-55	10-20	NP-5
	14-28	Fine sand	SC-SM, SM, SP-SM	A-2, A-3	0	0	100	100	50-70	5-15	10-20	NP-5
	28-60	Very fine sand	CL-ML, ML, SC-SM, SM	A-4	0	0	100	100	75-90	35-55	10-20	NP-5
15:												
Bucklebar-------	0-4	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-40	15-25	NP-5
	4-37	Sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	90-100	85-100	70-90	30-55	15-35	5-15
	37-60	Coarse sandy loam	SC-SM, SM	A-1, A-2	0	0	90-100	85-100	45-65	20-35	15-25	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
16:												
Cacique family--	0-1	Extremely gravelly loam	GC, GM, GP-GC, GP-GM	A-1, A-2	0	0	20-30	15-25	10-25	5-20	15-30	NP-10
	1-8	Gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2, A-4, A-6	0	0	55-80	50-75	40-70	20-40	25-35	5-15
	8-35	Gravelly clay loam	CL, GC, SC	A-6	0	0	55-80	50-75	45-75	35-60	30-40	10-20
	35-60	Indurated			---	---	---	---	---	---	---	---
17:												
Castaneda-------	0-1	Extremely gravelly loam	GC, GC-GM, GM, GP-GM	A-1, A-2	0	0	20-30	15-25	15-25	10-25	15-30	NP-10
	1-9	Gravelly clay loam, sandy clay loam	CL	A-2, A-4, A-6	0	0	55-100	50-100	45-100	35-80	30-35	10-15
	9-17	Sandy clay loam, gravelly clay loam	CL	A-2, A-4, A-6	0	0	55-80	50-75	45-75	35-60	30-35	10-15
	17-32	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0	35-55	25-50	20-50	15-40	15-30	NP-10
	32-41	Indurated			---	---	---	---	---	---	---	---
	41-60	Extremely gravelly loamy sand	GP, GP-GC, GP-GM	A-1	0	0	20-35	15-30	5-20	0-10	0-30	NP-10
18:												
Castaneda-------	0-1	Extremely gravelly loam	GC, GC-GM, GM, GP-GM	A-1, A-2	0	0	20-30	15-25	15-25	10-25	15-30	NP-10
	1-9	Gravelly clay loam, sandy clay loam	CL	A-2, A-4, A-6	0	0	55-100	50-100	45-100	35-80	30-35	10-15
	9-17	Sandy clay loam, gravelly clay loam	CL	A-2, A-4, A-6	0	0	55-80	50-75	45-75	35-60	30-35	10-15
	17-32	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0	35-55	25-50	20-50	15-40	15-30	NP-10
	32-41	Indurated			---	---	---	---	---	---	---	---
	41-60	Extremely gravelly loamy sand	GP, GP-GC, GP-GM	A-1	0	0	20-35	15-30	5-20	0-10	0-30	NP-10

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
19:												
Carrizo family--	0-1	Very gravelly loamy sand	GC-GM, GM, GP-GM	A-1	0-5	0-5	30-55	25-50	10-30	5-15	10-20	NP-5
	1-9	Loamy sand	SC-SM, SM, SP-SM	A-1, A-2	0	0-5	80-95	75-90	35-70	10-25	10-20	NP-5
	9-60	Very gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1	0	0-5	30-55	25-50	10-25	0-5	10-20	NP-5
20:												
Carrizo family--	0-1	Very gravelly loamy sand	GC-GM, GM, GP-GM	A-1	0-5	0-5	30-55	25-50	10-30	5-15	10-20	NP-5
	1-9	Loamy sand	SC-SM, SM, SP-SM	A-1, A-2	0	0-5	80-95	75-90	35-70	10-25	10-20	NP-5
	9-60	Very gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1	0	0-5	30-55	25-50	10-25	0-5	10-20	NP-5
Riverwash-------	---	---	---	---	---	---	---	---	---	---	---	---
21:												
Carrizo---------	0-1	Extremely gravelly loamy sand	GW-GM	A-1	0	0-5	20-30	15-25	10-20	5-10	10-25	NP
	1-23	Extremely gravelly loamy sand	GW-GM	A-1	0	0-5	20-30	15-25	10-20	5-10	10-25	NP
	23-60	Extremely gravelly sand	GW	A-1	0	0-5	20-30	15-25	10-20	1-5	0-10	NP
Riverwash-------	---	---	---	---	---	---	---	---	---	---	---	---
22:												
Carrizo---------	0-1	Very gravelly coarse sand	SP, SP-SM	A-1	0	30-50	60-95	55-90	20-50	0-10	10-20	NP-5
	1-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0	0	20-30	15-25	5-20	0-5	10-20	NP-5
Riverwash-------	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
23:												
Cave----------	0-1	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0-5	55-80	50-75	30-50	15-30	15-25	NP-5
	1-7	Gravelly coarse sandy loam	GC-GM, GM, GP-GM	A-1	0	0-5	55-80	50-75	25-45	10-25	15-25	NP-5
	7-28	Indurated			---	---	---	---	---	---	---	---
	28-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0	0-5	20-30	15-25	5-20	0-5	10-20	NP-5
24:												
Cave----------	0-1	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0-5	55-80	50-75	30-50	15-30	15-25	NP-5
	1-7	Gravelly coarse sandy loam	GC-GM, GM, GP-GM	A-1	0	0-5	55-80	50-75	25-45	10-25	15-25	NP-5
	7-28	Indurated			---	---	---	---	---	---	---	---
	28-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0	0-5	20-30	15-25	5-20	0-5	10-20	NP-5
25:												
Cellar----------	0-2	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0-10	0-25	30-55	25-50	15-35	5-20	15-25	NP-5
	2-10	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0-5	0-5	30-55	25-50	15-35	5-20	15-25	NP-5
	10-13	Weathered bedrock			---	---	---	---	---	---	---	---
	>13	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
26:												
Cellar----------	0-2	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0-10	0-25	30-55	25-50	15-35	5-20	15-25	NP-5
	2-10	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0-5	0-5	30-55	25-50	15-35	5-20	15-25	NP-5
	10-13	Weathered bedrock			---	---	---	---	---	---	---	---
	>13	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
27:												
Cellar----------	0-2	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0-10	0-25	30-55	25-50	15-35	5-20	15-25	NP-5
	2-10	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0-5	0-5	30-55	25-50	15-35	5-20	15-25	NP-5
	10-13	Weathered bedrock			---	---	---	---	---	---	---	---
	>13	Unweathered bedrock			---	---	---	---	---	---	---	---
Topock----------	0-2	Extremely gravelly sandy loam	GC-GM, GM, GP, GP-GM	A-1	0	0-5	20-30	15-25	5-20	0-15	15-25	NP-5
	2-5	Gravelly sandy clay	GC, SC	A-2, A-6, A-7	0	0-5	55-80	50-75	40-70	20-45	40-60	15-40
	5-12	Sandy clay	CH, CL, SC	A-2, A-6, A-7	0	0-5	80-100	75-100	65-95	35-60	40-60	15-40
	12-23	Weathered bedrock			---	---	---	---	---	---	---	---
	>23	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
28:												
Cherioni--------	0-1	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-1, A-2, A-4	0-5	40-55	40-75	35-70	30-65	20-50	25-30	5-10
	1-8	Very gravelly clay loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-50	15-40	30-35	10-15
	8-10	Indurated			---	---	---	---	---	---	---	---
	>10	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
29:												
Chuckawalla-----	0-1	Extremely gravelly silt loam	GC-GM, GM	A-1	0	5-15	15-30	10-25	5-25	5-20	15-25	NP-5
	1-5	Gravelly loam	CL, CL-ML, SC, SC-SM	A-2, A-4	0	0-5	55-80	50-75	40-70	30-55	25-30	5-10
	5-20	Very gravelly loam	GC, GC-GM	A-1, A-2, A-4	0	0	30-55	25-50	20-50	15-40	25-30	5-10
	20-29	Extremely gravelly loamy sand	GW, GW-GM	A-1	0	0	20-30	15-25	5-20	0-10	10-20	NP-5
	29-34	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	5-20	15-25	NP-5
	34-60	Very gravelly loamy sand	GC-GM, GM	A-1	0	0	30-55	25-50	10-30	5-15	10-20	NP-5
Riverbend-------	0-2	Very cobbly sandy loam	GC-GM, GM	A-1	0-5	20-30	45-55	40-50	20-25	10-20	15-25	NP-5
	2-7	Very gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1	0	0-5	55-65	45-55	25-30	15-25	20-25	NP-5
	7-18	Very cobbly loamy sand	GM	A-1	0	0-15	45-55	40-50	15-25	5-15	15-20	NP-5
	18-34	Very gravelly loamy sand	GC-GM, GM	A-1	0	0	30-55	25-50	10-30	5-15	10-20	NP-5
	34-60	Very gravelly sand	GM, GP, GP-GM, SP-SM	A-1	0	0	30-65	15-60	5-35	0-15	0-14	NP
30:												
Chuckawalla family---------	0-1	Extremely gravelly silt loam	GC, GM, GP-GC, GP-GM	A-1, A-2	0	0	20-30	15-25	10-25	10-20	15-30	NP-10
	1-10	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0	30-55	25-50	20-50	15-40	15-30	NP-10
	10-23	Very gravelly sandy clay loam	GC, GC-GM, GP-GC	A-1, A-2	0	0	30-55	25-50	20-45	10-30	25-35	5-15
	23-60	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	15-35	5-20	15-25	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
30:												
Riverbend family	0-2	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5
	2-11	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5
	11-60	Very gravelly loamy sand	GC-GM, GP-GM	A-1	0	0	30-55	25-50	10-40	5-15	10-20	NP-5
31:												
Cipriano--------	0-1	Very stony loam	GC-GM, GM, SC-SM, SM	A-2, A-4	30-40	20-25	55-85	50-75	40-70	30-55	15-25	NP-5
	1-10	Very gravelly loam	GC-GM, GM	A-1, A-2, A-4	0	0-5	30-55	25-50	20-50	15-40	15-25	NP-5
	>10	Indurated			---	---	---	---	---	---	---	---
32:												
Cline----------	0-1	Very stony loam	GC, GC-GM	A-1, A-2, A-4	5-15	5-15	30-55	25-50	20-50	15-40	25-30	5-10
	1-11	Very gravelly loam	GC, GC-GM	A-1, A-2, A-4	0-5	0-15	30-55	25-50	20-50	15-40	25-30	5-10
	11-18	Indurated			---	---	---	---	---	---	---	---
	>18	Unweathered bedrock			---	---	---	---	---	---	---	---
33:												
Cline----------	0-1	Very stony loam	GC, GC-GM	A-1, A-2, A-4	5-15	5-15	30-55	25-50	20-50	15-40	25-30	5-10
	1-11	Very gravelly loam	GC, GC-GM	A-1, A-2, A-4	0-5	0-15	30-55	25-50	20-50	15-40	25-30	5-10
	11-18	Indurated			---	---	---	---	---	---	---	---
	>18	Unweathered bedrock			---	---	---	---	---	---	---	---
34:												
Continental-----	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	1-19	Very gravelly sandy clay loam	GC, GC-GM, GP-GC	A-1, A-2	0	0	35-60	35-60	25-45	10-30	25-30	5-10
	19-39	Clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-55	20-30
	39-60	Clay loam	CL	A-6	0	0	100	100	90-100	70-80	30-35	10-15

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
34:												
Tres Hermanos---	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1	0	0	55-80	50-75	35-50	15-30	15-25	NP-10
	2-26	Gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-2, A-4, A-6, A-1	0	0	55-80	50-75	40-70	20-40	30-40	5-15
	26-60	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-10
35:												
Continental-----	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	1-19	Very gravelly sandy clay loam	GC, GC-GM, GP-GC	A-1, A-2	0	0	35-60	35-60	25-45	10-30	25-30	5-10
	19-39	Clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-55	20-30
	39-60	Clay loam	CL	A-6	0	0	100	100	90-100	70-80	30-35	10-15
Tres Hermanos---	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1	0	0	55-80	50-75	35-50	15-30	15-25	NP-10
	2-26	Gravelly sandy clay loam	SC-SM, GC, GC-GM, SC	A-1, A-2, A-4, A-6	0	0	55-80	50-75	40-70	20-40	30-40	5-15
	26-60	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-10
36:												
Continental-----	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	1-19	Very gravelly sandy clay loam	GC, GC-GM, GP-GC	A-1, A-2	0	0	35-60	35-60	25-45	10-30	25-30	5-10
	19-39	Clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-55	20-30
	39-60	Clay loam	CL	A-6	0	0	100	100	90-100	70-80	30-35	10-15

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
36:												
Rillino---------	0-2	Gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5
	2-8	Gravelly sandy clay loam	GC-GM, SC-SM	A-1, A-2, A-4	0	0	55-80	50-75	40-70	20-40	30-35	5-10
	8-16	Gravelly sandy clay loam	GC-GM, SC-SM	A-1, A-2, A-4	0	0	55-80	50-75	40-70	20-40	30-35	5-10
	16-27	Gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5
	27-39	Gravelly loamy sand	GC, GC-GM, GM	A-1, A-2	0	0	30-55	25-50	15-35	15-20	0-25	NP-10
	39-54	Gravelly loamy sand	GC, GC-GM, GM	A-1, A-2	0	0	30-55	25-50	15-35	15-20	0-25	NP-10
	54-60	Gravelly loamy sand	GC, GC-GM, GM	A-1, A-2	0	0	30-55	25-50	15-35	15-20	0-25	NP-10
37:												
Continental-----	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	1-19	Very gravelly sandy clay loam	GC, GC-GM, GP-GC	A-1, A-2	0	0	35-60	35-60	25-45	10-30	25-30	5-10
	19-39	Clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-55	20-30
	39-60	Clay loam	CL	A-6	0	0	100	100	90-100	70-80	30-35	10-15
Rillino---------	0-2	Gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5
	2-16	Gravelly sandy clay loam	GC-GM, SC-SM	A-1, A-2, A-4	0	0	55-80	50-75	40-70	20-40	30-35	5-10
	16-27	Gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5
	27-60	Gravelly loamy sand	GC, GC-GM, GM	A-1, A-2	0	0	30-55	25-50	15-35	15-20	0-25	NP-10
38:												
Coolidge--------	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-27	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	27-46	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	46-60	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
38:												
Denure----------	0-2	Loamy sand	SC-SM, SM	A-1, A-2	0	0	80-100	75-100	40-75	10-30	10-15	NP-5
	2-7	Loamy sand	SC-SM, SM	A-1, A-2	0	0	80-100	75-100	40-75	10-30	10-15	NP-5
	7-18	Gravelly coarse sandy loam	GC-GM, SC-SM, SP-SM	A-1	0	0	55-80	50-75	25-45	10-20	15-25	NP-5
	18-60	Coarse sandy loam	SC-SM, SM	A-1, A-2	0	0	80-100	75-100	35-65	15-35	15-25	NP-5
39:												
Coolidge family-	0-2	Gravelly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	15-25	NP-5
	2-8	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	8-29	Sandy loam	SC-SM, SM	A-1, A-2	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	29-41	Sandy loam	SC-SM, SM	A-1, A-2	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	41-60	Gravelly sand	SP, SP-SM	A-1	0	0	55-80	50-75	25-50	0-10	10-20	NP-5
Denure family---	0-1	Very gravelly loamy sand	GC-GM, GP-GM	A-1	0	0	30-55	25-50	10-40	5-15	10-20	NP-5
	1-11	Loamy sand	SC-SM, SM, SP-SM	A-1, A-2	0	0	80-100	75-100	40-75	10-30	10-20	NP-5
	11-60	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
40:												
Courthouse family---------	0-2	Very cobbly loam	GC-GM, GM, ML, SM	A-2, A-4	0-10	30-45	55-80	50-75	40-70	30-55	15-25	NP-5
	2-12	Extremely gravelly loam	GC-GM, GM	A-1, A-2, A-4	0	0-10	30-55	25-50	20-50	15-40	15-25	NP-5
	>12	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Rubble land-----	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
41:												
Courthouse family---------	0-2	Extremely cobbly loam	GC-GM, GM, ML, SM	A-2, A-4	0-10	40-55	55-80	50-75	40-70	30-55	15-25	NP-5
	2-12	Extremely gravelly loam	GC-GM, GM	A-1, A-2, A-4	0	0-10	30-55	25-50	20-50	15-40	15-25	NP-5
	>12	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Wagonbow--------	0-3	Very stony clay loam	CL, GC, SC	A-6	20-35	20-35	55-80	50-75	45-75	35-60	30-35	10-15
	3-6	Cobbly clay loam	CL	A-6	0-5	20-35	80-100	75-100	70-100	50-100	30-35	10-15
	6-50	Silty clay	CH, CL	A-7	0-5	0-10	80-100	75-100	70-100	65-95	35-55	15-35
	50-60	Very gravelly clay loam	GC	A-2, A-6	0	0-5	30-55	25-50	20-50	20-40	30-35	10-15
42:												
Far----------	0-5	Very bouldery loam	GC-GM, GM, SC-SM	A-2, A-4	40-45	0-5	55-80	50-75	40-70	30-55	15-25	NP-5
	5-9	Very gravelly loam	GC-GM, GM	A-1, A-2, A-4	0-5	0-51	30-55	25-50	20-50	15-40	15-25	NP-5
	>9	Weathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
43:												
Dutchflat-------	0-4	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	50-70	25-40	15-25	NP-5
	4-37	Sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	90-100	85-100	70-90	30-55	15-35	5-15
	37-60	Coarse sandy loam	SC-SM, SM	A-1, A-2	0	0	90-100	85-100	45-65	20-35	15-25	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
44:												
Dutchflat--------	0-2	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	80-100	75-100	50-85	30-55	15-25	NP-5
	2-28	Gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2, A-4, A-6	0	0	55-80	50-75	40-70	20-40	30-40	5-15
	28-41	Gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2, A-4, A-6	0	0	55-80	50-75	40-70	20-40	30-40	5-15
	41-60	Very gravelly coarse sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	15-30	5-15	15-25	NP-5
45:												
Gadsden---------	0-2	Silty clay	CL	A-7	0	0	100	100	95-100	90-95	40-50	20-30
	2-56	Stratified silty clay to clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-55	20-30
	56-60	Stratified very fine sandy loam to silt loam	CL-ML, ML	A-4	0	0	100	100	80-90	50-60	15-25	NP-5
46:												
Gila----------	0-4	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	85-95	50-60	15-25	NP-5
	4-12	Stratified silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	70-90	15-30	NP-10
	12-21	Stratified very fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	85-95	50-60	15-30	NP-10
	21-29	Stratified fine sand to loamy fine sand	SC-SM, SM	A-2	0	0	100	100	50-75	15-30	10-20	NP-5
	29-60	Stratified fine sandy loam to silty clay loam	CL	A-6	0	0	100	100	95-100	85-90	30-40	10-20
Glendale--------	0-10	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
	10-37	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
	37-54	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	70-90	15-30	NP-10
	54-60	Coarse sand	SP-SM	A-1, A-2, A-3	0	0	100	100	45-60	5-10	10-20	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
47:												
Gila----------	0-4	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	85-95	50-60	15-25	NP-5
	4-12	Stratified silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	70-90	15-30	NP-10
	12-21	Stratified very fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	85-95	50-60	15-30	NP-10
	21-29	Stratified fine sand to loamy fine sand	SC-SM, SM	A-2	0	0	100	100	50-75	15-30	10-20	NP-5
	29-60	Stratified fine sandy loam to silty clay loam	CL	A-6	0	0	100	100	95-100	85-90	30-40	10-20
Glendale--------	0-10	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
	10-21	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
	21-37	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
	37-54	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	70-90	15-30	NP-10
	54-60	Coarse sand	SW-SM	A-1, A-2, A-3	0	0	100	100	45-60	5-10	10-20	NP-5
48:												
Goldroad--------	0-2	Extremely gravelly sandy loam	GC-GM, GM, GP	A-1	0	0-10	20-30	15-25	5-20	0-15	15-25	NP-5
	2-13	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0-10	30-55	25-50	15-30	5-15	15-25	NP-5
	---	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
49:												
Gonzales--------	0-1	Very cobbly sandy clay loam	GC, GC-GM, SC, SC-SM	A-2, A-4, A-6	0	35-45	65-75	55-65	45-60	25-45	25-35	5-15
	1-7	Clay	CH, CL	A-7	0	0-10	95-100	90-95	75-90	50-75	40-55	20-30
	7-14	Clay	CH, CL	A-7	0	0-10	95-100	90-95	75-90	50-75	40-55	20-30
	14-17	Weathered bedrock			---	---	---	---	---	---	---	---
	>17	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
49:												
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
50:												
Goodsprings family---------	0-2	Gravelly sandy loam	SM, GC-GM, GM, SC-SM	A-1	0	0	60-70	55-65	30-45	15-25	15-30	NP-10
	2-18	Gravelly loam	GM, SM	A-4	0	0	60-75	55-70	45-65	35-50	15-30	NP-10
	18-39	Cemented			---	---	---	---	---	---	---	---
	39-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0	0	20-30	15-25	5-20	0-5	10-15	NP-5
51:												
Goodsprings family---------	0-2	Gravelly sandy loam	SM, GC-GM, GM, SC-SM	A-1	0	0	60-70	55-65	30-45	15-25	15-30	NP-10
	2-18	Gravelly loam	GM, SM	A-4	0	0	60-75	55-70	45-65	35-50	15-30	NP-10
	18-39	Cemented			---	---	---	---	---	---	---	---
	39-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0	0	20-30	15-25	5-20	0-5	10-15	NP-5
52:												
Goodsprings family---------	0-2	Gravelly sandy loam	SM, GC-GM, GM, SC-SM	A-1	0	0	60-70	55-65	30-45	15-25	15-30	NP-10
	2-18	Gravelly loam	GM, SM	A-4	0	0	60-75	55-70	45-65	35-50	15-30	NP-10
	18-39	Cemented			---	---	---	---	---	---	---	---
	39-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0	0	20-30	15-25	5-20	0-5	10-15	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
53:												
Goodsprings family---------	0-2	Gravelly sandy loam	SM, GC-GM, GM, SC-SM	A-1	0	0	60-70	55-65	30-45	15-25	15-30	NP-10
	2-18	Gravelly loam	GM, SM	A-4	0	0	60-75	55-70	45-65	35-50	15-30	NP-10
	18-39	Cemented			---	---	---	---	---	---	---	---
	39-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0	0	20-30	15-25	5-20	0-5	10-15	NP-5
54:												
Graham----------	0-2	Very cobbly loam	GC, GC-GM, GM	A-1, A-2, A-4	10-15	30-45	30-55	25-50	20-50	15-40	15-30	NP-10
	2-7	Clay loam	CL	A-6	0-5	0-10	80-100	75-100	70-100	50-80	30-35	10-15
	7-14	Clay	CH, CL	A-6, A-7	0	0-5	80-100	75-100	70-100	50-95	35-55	15-35
	>14	Unweathered bedrock			---	---	---	---	---	---	---	---
Arivaca---------	0-2	Very cobbly silty clay loam	CL, GC, GM, ML	A-1, A-2, A-4, A-6	0-10	25-55	30-80	25-75	20-75	20-70	0-40	NP-15
	2-6	Cobbly silty clay	CH, CL	A-6, A-7	0	30-50	80-100	75-100	70-100	65-95	35-65	15-45
	6-17	Clay	CH, CL	A-6, A-7	0	0	90-100	85-100	75-100	65-95	35-65	15-45
	17-30	Clay	CH, CL	A-6, A-7	0	0	90-100	85-100	75-100	65-95	35-65	15-45
	30-36	Clay loam	CL	A-6	0	0	90-100	85-100	75-100	60-80	25-40	10-20
	>36	Unweathered bedrock			---	---	---	---	---	---	---	---
55:												
Graham----------	0-2	Very cobbly loam	GC, GC-GM, GM	A-1, A-2, A-4	10-15	30-45	30-55	25-50	20-50	15-40	15-30	NP-10
	2-7	Clay loam	CL	A-6	0-5	0-10	80-100	75-100	70-100	50-80	30-35	10-15
	7-14	Clay	CH, CL	A-6, A-7	0	0-5	80-100	75-100	70-100	50-95	35-55	15-35
	>14	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
55:												
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
56:												
Gunsight--------	0-3	Very gravelly loam	GM	A-1	0	0	50-60	40-50	25-35	15-20	15-20	NP-5
	3-6	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	6-28	Extremely gravelly sandy loam	GC-GM, GM, GP	A-1	0	0	20-30	15-25	5-20	0-15	15-25	NP-5
	28-50	Extremely gravelly coarse sandy loam	GP, GP-GM	A-1	0	0	20-30	15-25	5-20	0-10	15-25	NP-5
	50-60	Extremely gravelly loamy sand	GP, GP-GM	A-1	0	0	20-35	15-30	5-20	0-10	10-20	NP-5
57:												
Gunsight--------	0-3	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-20	35-55	25-50	15-35	15-20	15-25	NP-5
	3-6	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	6-28	Extremely gravelly sandy loam	GC-GM, GM, GP	A-1	0	0	20-30	15-25	5-20	0-15	15-25	NP-5
	28-50	Extremely gravelly coarse sandy loam	GP, GP-GM	A-1	0	0	20-30	15-25	5-20	0-10	15-25	NP-5
	50-60	Extremely gravelly loamy sand	GP, GP-GM	A-1	0	0	20-35	15-30	5-20	0-10	10-20	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
58:												
Hassell family--	0-4	Loam	CL, CL-ML, SC-SM, SM	A-4	0	0-5	80-100	75-100	65-95	45-75	15-30	NP-10
	4-13	Clay	CH, CL	A-7	0	0	80-100	75-100	70-100	50-95	35-55	15-35
	13-24	Clay	CH, CL	A-7	0	0	80-100	75-100	70-100	50-95	35-55	15-35
	24-33	Gravelly clay loam	CL, GC, SC	A-6	0	0	55-80	50-75	45-75	35-60	32-40	10-15
	33-47	Weathered bedrock			---	---	---	---	---	---	---	---
	>47	Unweathered bedrock			---	---	---	---	---	---	---	---
Lampshire-------	0-1	Very gravelly loam	GC-GM, GM	A-1, A-2, A-4	0	0-5	30-55	20-50	20-50	15-40	15-25	NP-5
	1-6	Very gravelly sandy loam	GW-GM	A-1	0	0	40-50	35-45	15-20	5-15	15-25	NP-5
	6-9	Weathered bedrock			---	---	---	---	---	---	---	---
	>9	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
59:												
Holtville-------	0-2	Silty clay	CH, CL	A-6, A-7	0	0	100	100	95-100	90-95	35-55	15-35
	2-23	Clay	CH, CL	A-6, A-7	0	0	100	100	90-100	75-95	35-55	15-35
	23-31	Silty clay	CL, CH	A-6, A-7	0	0	100	100	95-100	90-95	35-55	15-35
	31-42	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	75-85	50-60	15-25	NP-5
	42-60	Fine sand	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	100	75-95	35-55	15-20	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
60:												
Huevi----------	0-2	Very gravelly loam	GC-GM, GM, ML, SM	A-2, A-4	0	0-5	55-80	50-75	40-70	30-55	15-25	NP-5
	2-9	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	30-55	25-50	15-35	15-20	15-25	NP-5
	9-27	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	30-55	25-50	15-35	15-20	15-25	NP-5
	27-40	Extremely gravelly sandy loam	GC-GM, GM, GP	A-1	0	0-5	20-30	15-25	5-20	0-15	15-25	NP-5
	40-60	Very gravelly loamy sand	GP-GM	A-1	0	0-5	30-55	25-50	10-40	5-15	10-20	NP-5
61:												
Huevi----------	0-2	Very gravelly loam	GM	A-1	0	0-5	40-60	35-50	30-45	20-25	15-25	NP-5
	2-9	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	30-55	25-50	15-35	15-20	15-25	NP-5
	9-27	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	30-55	25-50	15-35	15-20	15-25	NP-5
	27-40	Extremely gravelly sandy loam	GC-GM, GM, GW	A-1	0	0-5	20-30	15-25	5-20	0-15	15-25	NP-5
	40-60	Very gravelly loamy sand	GW-GM	A-1	0	0-5	30-55	25-50	10-40	5-15	10-20	NP-5
62:												
Akela----------	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-10	30-55	25-50	15-35	15-25	15-20	NP-5
	1-12	Very gravelly sandy loam, extremely gravelly sandy loam	GC-GM, GM, GP-GM, GW-GM	A-1	0	0-5	20-55	15-50	10-35	5-20	15-20	NP-5
	>12	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
62:												
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
63:												
Hyder----------	0-2	Extremely stony loam	GC-GM, GM	A-1, A-2, A-4	30-40	45-55	30-55	25-50	20-50	15-40	15-25	NP-5
	2-7	Extremely cobbly loam	GC-GM, GM	A-1, A-2, A-4	0-5	40-50	30-55	25-50	20-50	15-40	15-25	NP-5
	>7	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Rubble land-----	---	---	---	---	---	---	---	---	---	---	---	---
64:												
Indio----------	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	70-90	15-30	NP-10
	8-46	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	70-90	15-30	NP-10
	46-58	Clay	CH, CL	A-6, A-7	0	0	100	100	90-100	75-95	35-55	15-35
	58-60	Sand	SM, SP-SM	A-2, A-3	0	0	100	100	50-70	5-15	10-20	NP-5
65:												
Ireteba family--	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-10	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	10-19	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	19-31	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	31-41	Gravelly coarse sandy loam	GC-GM, GM, SC-SM	A-1	0	0	55-80	50-75	25-45	10-20	15-25	NP-5
	41-60	Very gravelly loamy sand	GC-GM	A-1	0	0	30-55	25-50	10-30	5-15	10-20	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
65:												
Arizo----------	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-11	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	11-15	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	15-35	Extremely gravelly loamy sand	GW, GW-GC	A-1, A-2	0	0	20-30	15-25	5-20	0-10	15-30	NP-10
	35-60	Very gravelly loamy coarse sand	GW, GW-GC	A-1, A-2	0	0	30-55	25-50	10-25	0-10	15-30	NP-10
66:												
Kinley----------	0-2	Gravelly loamy sand	GC, GM, SC-SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	0-30	NP-10
	2-9	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	9-13	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	13-24	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	24-34	Gravelly sandy loam	SC-SM, SM, GC-GM, GM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	34-50	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	50-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
67:												
Kinley----------	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-9	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	9-13	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	13-24	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	24-34	Gravelly sandy loam	SC-SM, SM, GC-GM, GM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	34-50	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	50-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
67:												
Poachie---------	0-2	Gravelly clay loam	CL, GC, SC	A-6	0	0	55-80	50-75	45-75	35-60	30-35	10-15
	2-24	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	24-38	Sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4	0	0	80-100	75-100	60-90	25-55	25-30	5-10
	38-60	Gravelly coarse sandy loam	GC-GM, GM, SC-SM, SP-SM	A-1	0	0	55-80	50-75	25-45	10-20	15-25	NP-5
68:												
Kofa----------	0-12	Silty clay	CH, CL	A-7	0	0	100	100	95-100	90-95	45-55	20-30
	12-29	Stratified clay, stratified silty clay	CH	A-7	0	0	100	100	95-100	85-95	55-75	35-50
	29-60	Stratified sand, stratified loamy sand, stratified fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	60-80	5-25	0-14	NP
69:												
Dudleyville-----	0-2	Gravelly loamy sand	GM, GP-GM, SC-SM, SM	A-1, A-2	0	0	55-80	25-55	25-55	10-20	10-20	NP-5
	2-12	Gravelly loamy coarse sand	GM, SC-SM, SM, SP-SM	A-1	0	0	55-80	20-40	20-40	5-15	10-20	NP-5
	12-60	Very gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1	0	0	35-60	35-60	15-25	0-5	10-20	NP-5
Vinton----------	0-3	Coarse sandy loam	SC-SM, SM	A-2	0	0	95-100	90-100	50-60	20-35	15-25	NP-5
	3-24	Loamy coarse sand	SC-SM, SM, SP-SM	A-1, A-2	0	0	95-100	90-100	45-60	10-25	10-20	NP-5
	24-30	Gravelly loamy coarse sand	GM, SC-SM, SM, SP-SM	A-1	0	0	55-80	50-75	20-40	5-15	10-20	NP-5
	30-38	Loamy coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0	80-100	75-100	30-60	5-25	10-20	NP-5
	38-60	Very gravelly loamy coarse sand	GP, GP-GM, SP, SP-SM	A-1	0	0	30-55	25-50	15-25	0-10	10-20	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
69:												
Riverwash-------	---	---	---	---	---	---	---	---	---	---	---	---
70:												
Dudleyville-----	0-2	Gravelly loamy sand	GM, GP-GM, SC-SM, SM	A-1, A-2	0	0	55-80	25-55	25-55	10-20	10-20	NP-5
	2-12	Gravelly loamy coarse sand	GM, SC-SM, SM, SP-SM	A-1	0	0	55-80	20-40	20-40	5-15	10-20	NP-5
	12-60	Very gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1	0	0	35-60	35-60	15-25	0-5	10-20	NP-5
Vinton----------	0-3	Coarse sandy loam	SC-SM, SM	A-2	0	0	95-100	90-100	50-60	20-35	15-25	NP-5
	3-24	Loamy coarse sand	SC-SM, SM, SP-SM	A-1, A-2	0	0	95-100	90-100	45-60	10-25	10-20	NP-5
	24-30	Gravelly loamy coarse sand	GM, SC-SM, SM, SP-SM	A-1	0	0	55-80	50-75	20-40	5-15	10-20	NP-5
	30-38	Loamy coarse sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0	80-100	75-100	30-60	5-25	10-20	NP-5
	38-60	Very gravelly loamy coarse sand	GP, GP-GM, SP, SP-SM	A-1	0	0	30-55	25-50	15-25	0-10	10-20	NP-5
Riverwash-------	---	---	---	---	---	---	---	---	---	---	---	---
71:												
Lagunita--------	0-2	Sand	SM, SP-SM, SC-SM	A-2, A-3, A-1	0	0	80-100	75-100	40-70	5-15	10-20	NP-5
	2-60	Loamy sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0	80-100	75-100	40-70	5-15	10-20	NP-5
72:												
Lagunita--------	0-2	Coarse sand	SP-SM	A-1, A-2, A-3	0	0	95-100	90-100	40-60	5-10	10-20	NP-5
	2-60	Loamy sand	SC-SM, SM, SP-SM	A-1, A-2, A-3	0	0	80-100	75-100	40-70	5-15	10-20	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
72:												
Ripley----------	0-1	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	80-100	75-100	50-85	30-55	15-25	NP-5
	1-30	Gravelly silt loam	CL, GC, GM, ML	A-4	0	0	55-80	50-75	45-75	35-70	10-30	NP-10
	30-60	Gravelly loamy fine sand	GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-20	NP-5
73:												
Lampshire-------	0-1	Gravelly coarse sandy loam	SC-SM, SM	A-2, A-1	0	0	55-80	50-75	25-45	15-30	20-25	NP-5
	1-6	Very gravelly sandy loam	SM	A-1	0	0-5	50-60	40-50	23-35	10-20	15-25	NP-5
	6-17	Weathered bedrock			---	---	---	---	---	---	---	---
	>17	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
74:												
Lampshire-------	0-1	Very gravelly loam	GC-GM, GM	A-1, A-2, A-4	0	0-5	30-55	20-50	20-50	15-40	15-25	NP-5
	1-6	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0-5	35-55	15-35	15-30	5-15	15-25	NP-5
	6-17	Weathered bedrock			---	---	---	---	---	---	---	---
	>17	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
75:												
Lampshire-------	0-2	Very stony loam	GC-GM, SC-SM, SM	A-2, A-4	20-40	20-40	55-80	50-75	40-75	30-75	15-25	NP-5
	2-7	Very cobbly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0-15	20-50	55-80	50-75	40-75	30-75	15-25	NP-5
	>7	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
76:												
Lostman---------	0-2	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	2-36	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	36-56	Very gravelly loamy coarse sand	GM, GW-GM	A-1	0	0	40-49	30-45	20-30	5-15	10-15	NP
	56-60	Gravelly sandy clay loam	GC	A-6	0	0	60-80	55-75	40-50	35-45	30-35	10-15
77:												
Lostman---------	0-2	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	2-12	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	80-100	75-100	50-85	30-55	15-25	NP-5
	12-27	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	27-38	Loam	CL-ML, ML, SC-SM, SM	A-4	0	0	80-100	75-100	65-95	45-75	15-25	NP-5
	38-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5
78:												
Lostman---------	0-2	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	2-12	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	80-100	75-100	50-85	30-55	15-25	NP-5
	12-27	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	27-38	Loam	CL-ML, ML, SC-SM, SM	A-4	0	0	80-100	75-100	65-95	45-75	15-25	NP-5
	38-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
78:												
Kinley----------	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-9	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	9-13	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	13-24	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	24-34	Gravelly sandy loam	SC-SM, SM, GC-GM, GM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	34-50	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	50-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
79:												
Marshes---------	---	---	---	---	---	---	---	---	---	---	---	---
80:												
Meloland--------	0-8	Very fine sandy loam	CL-ML	A-4	0	0	100	100	85-95	50-65	20-25	NP-5
	8-19	Very fine sandy loam	CL-ML	A-4	0	0	100	100	85-95	50-65	20-25	NP-5
	19-60	Clay	CH, CL	A-7	0	0	100	100	90-100	75-95	40-55	20-35
81:												
Mohon----------	0-2	Gravelly loamy sand	GM, GP-GM, SC-SM, SM	A-1, A-2	0	0-5	55-80	50-75	25-55	10-20	10-20	NP-5
	2-6	Clay loam	CL	A-6	0	0-5	95-100	90-100	80-100	65-80	30-35	10-15
	6-40	Clay	CL	A-7	0	0-5	95-100	90-100	80-100	70-95	40-50	20-30
	40-60	Cobbly clay loam	CL, GC, SC	A-6	0	0-25	55-80	50-75	45-75	35-60	30-35	10-15
Kinley----------	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-9	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	9-13	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	13-24	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	24-34	Gravelly sandy loam	SC-SM, SM, GC-GM, GM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	34-50	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	50-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
82:												
Mohon----------	0-2	Very cobbly loam	GC, GC-GM	A-2, A-4	0	35-55	55-65	45-55	40-50	25-40	25-30	5-10
	2-6	Clay loam	CL	A-6	0	0-5	95-100	90-100	80-100	65-80	30-35	10-15
	6-40	Clay	CL	A-7	0	0-5	95-100	90-100	80-100	70-95	40-50	20-30
	40-60	Cobbly clay loam	CL, GC, SC	A-6	0	0-25	55-80	50-75	45-75	35-60	30-35	10-15
Poachie---------	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-24	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	24-38	Sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4	0	0	80-100	75-100	60-90	25-55	25-30	5-10
	38-60	Gravelly coarse sandy loam	GC-GM, GM, SC-SM, SP-SM	A-1	0	0	55-80	50-75	25-45	10-20	15-25	NP-5
83:												
Mohon----------	0-2	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	30-55	25-50	15-35	15-20	15-25	NP-5
	2-6	Clay loam	CL	A-6	0	0-5	95-100	90-100	80-100	65-80	30-35	10-15
	6-40	Clay	CL	A-7	0	0-5	95-100	90-100	80-100	70-95	40-50	20-30
	40-60	Cobbly clay loam	CL, GC, SC	A-6	0	0-25	55-80	50-75	45-75	35-60	30-35	10-15
Poachie---------	0-2	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-5
	2-24	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	24-38	Sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4	0	0	80-100	75-100	60-90	25-55	25-30	5-10
	38-60	Gravelly coarse sandy loam	GC-GM, GM, SC-SM, SP-SM	A-1	0	0	55-80	50-75	25-45	10-20	15-25	NP-5
84:												
Nickel family---	0-3	Very gravelly loamy sand	GC-GM	A-1	0	0-20	30-55	25-50	10-40	5-15	10-20	NP-5
	3-7	Very gravelly sandy clay loam	GC, GC-GM	A-1, A-2	0	0-15	30-55	25-50	25-45	10-30	25-30	5-10
	7-26	Very gravelly loam	GC-GM, GM	A-1, A-2, A-4	0	0-5	30-55	25-50	20-50	15-40	15-25	NP-5
	26-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-5	30-55	25-50	15-35	15-20	15-25	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
84:												
Topawa family---	0-3	Very gravelly loamy sand	GC, GC-GM	A-1, A-2	0	0	30-55	25-50	10-40	5-15	0-30	NP-10
	3-18	Very gravelly sandy clay loam	GC	A-2	0	0	30-55	25-50	25-45	10-30	30-35	10-15
	18-50	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	20-25	NP-5
	50-58	Gravelly loamy sand	GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-20	NP-5
	58-60	Gravelly loam	SC, SC-SM, CL, GC	A-2, A-4	0	0	55-80	50-75	40-70	30-55	25-30	5-10
Eba family------	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-15	30-55	25-50	15-30	5-15	15-25	NP-5
	1-8	Very gravelly clay	GC	A-2, A-7	0	0-15	30-55	25-50	25-50	20-50	35-55	15-35
	8-32	Very gravelly clay	GC	A-2, A-7	0	0-15	30-55	25-50	25-50	20-50	35-55	15-35
	32-52	Very gravelly sandy clay	GC	A-2	0	0-25	30-55	25-50	20-50	15-30	35-55	15-35
	52-60	Very gravelly loam	GC, GC-GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	25-30	5-10
85:												
Orwash family---	0-2	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	2-14	Coarse sandy loam	SC-SM, SM	A-1, A-2	0	0	80-100	75-100	35-65	15-35	15-25	NP-5
	14-26	Gravelly loamy sand	GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-20	NP-5
	26-47	Gravelly sand	SP, SP-SM	A-1	0	0	55-80	50-75	25-50	0-10	10-20	NP-5
	47-60	Gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-4, A-6	0	0	55-80	50-75	40-70	20-40	20-30	5-15
86:												
Orwash family---	0-2	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	2-14	Coarse sandy loam	SC-SM, SM	A-1, A-2	0	0	80-100	75-100	35-65	15-35	15-25	NP-5
	14-26	Gravelly loamy sand	GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-20	NP-5
	26-47	Gravelly sand	SP, SP-SM	A-1	0	0	55-80	50-75	25-50	0-10	10-20	NP-5
	47-60	Gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-4, A-6	0	0	55-80	50-75	40-70	20-40	20-30	5-15

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
87:												
Penthouse--------	0-2	Very cobbly loam	GC-GM, GM, SC-SM	A-2, A-4	0	25-40	55-80	50-75	40-70	30-55	15-25	NP-5
	2-8	Gravelly clay loam	CL, GC, SC	A-6	0	0-10	55-80	50-75	45-75	35-60	30-35	10-15
	8-27	Gravelly clay	CL, GC, SC	A-7	0	0-20	55-80	50-75	45-75	40-70	40-50	20-30
	27-40	Gravelly clay loam	CL, GC, SC	A-6	0	0-10	55-80	50-75	45-75	35-60	25-35	10-15
	40-47	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0-10	55-80	50-75	30-50	15-30	20-25	NP-5
	47-60	Very gravelly loamy sand	GM, GP-GM	A-1	0	0-15	30-55	25-50	10-40	5-15	10-20	NP-5
Gonzales--------	0-1	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-2, A-4, A-6	0	35-45	65-75	55-65	45-60	25-45	25-35	5-15
	1-14	Clay, sandy clay	CH, CL	A-7	0	0-10	95-100	90-95	75-90	50-75	40-55	20-30
	14-17	Weathered bedrock			---	---	---	---	---	---	---	---
	>17	Unweathered bedrock			---	---	---	---	---	---	---	---
88:												
Poachie---------	0-2	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0	30-55	25-50	20-50	15-40	15-30	NP-10
	2-24	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	24-38	Sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4	0	0	80-100	75-100	60-90	25-55	25-30	5-10
	38-60	Gravelly coarse sandy loam	GC-GM, GM, SC-SM, SP-SM	A-1	0	0	55-80	50-75	25-45	10-20	15-25	NP-5
89:												
Poachie---------	0-2	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0	30-55	25-50	20-50	15-40	15-30	NP-10
	2-24	Sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	80-100	75-100	45-70	20-40	15-25	NP-5
	24-38	Sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4	0	0	80-100	75-100	60-90	25-55	25-30	5-10
	38-60	Gravelly coarse sandy loam	GC-GM, GM, SC-SM, SP-SM	A-1	0	0	55-80	50-75	25-45	10-20	15-25	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
90:												
Quilotosa-------	0-3	Extremely gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0-15	20-30	15-25	10-20	5-15	15-25	NP-5
	3-9	Very gravelly sandy loam	GP-GM, GC-GM, GM, GP	A-1	0	0	20-30	15-25	5-20	0-15	15-25	NP-5
	9-15	Weathered bedrock			0	0	---	---	---	---	---	---
	>15	Unweathered bedrock			0	0	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
91:												
Razorback-------	0-2	Extremely gravelly sandy loam	GW	A-1	0	0-10	20-30	15-25	5-20	0-15	15-25	NP-5
	2-5	Very gravelly sandy loam	GW-GM	A-1	0	0-5	35-50	30-45	15-30	5-15	15-25	NP-5
	>5	Unweathered bedrock			---	---	---	---	---	---	---	---
92:												
Razorback-------	0-2	Extremely cobbly loam	GC-GM, GM	A-1, A-2, A-4	15-20	50-55	45-55	40-50	35-50	25-50	15-25	NP-5
	2-15	Extremely gravelly loam	GC-GM, GM, GP-GM	A-1	0-5	0-5	20-30	15-25	15-25	10-25	15-25	NP-5
	>15	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
93:												
Razorback-------	0-2	Very stony loam	GC-GM, GM	A-1, A-2, A-4	40-50	0-15	35-55	25-50	20-50	15-40	15-25	NP-5
	2-15	Very gravelly loam	GC-GM, GM	A-1	0-5	0-5	20-30	15-25	15-25	10-25	15-25	NP-5
	>15	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
94:												
Razorback-------	0-2	Extremely cobbly loam	GC-GM, GM	A-1, A-2, A-4	15-20	50-55	45-55	40-50	35-50	25-50	15-25	NP-5
	2-15	Extremely gravelly loam	GC-GM, GM, GP-GM	A-1	0-5	0-5	20-30	15-25	15-25	10-25	15-25	NP-5
	>15	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
95:												
Razorback-------	0-2	Extremely cobbly loam	GC-GM, GM	A-1, A-2, A-4	5-20	30-50	35-55	25-50	20-50	15-40	15-25	NP-5
	2-15	Extremely gravelly loam	GC-GM, GM, GP-GM	A-1	0-5	0-5	20-30	15-25	15-25	10-25	15-25	NP-5
	>15	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Rubble land-----	---	---	---	---	---	---	---	---	---	---	---	---
96:												
Razorback-------	0-2	Extremely cobbly loam	GC-GM, GM	A-1, A-2, A-4	5-20	30-50	35-55	25-50	20-50	15-40	15-25	NP-5
	2-15	Extremely gravelly loam	GC-GM, GM, GP-GM	A-1	0-5	0-5	20-30	15-25	15-25	10-25	15-25	NP-5
	>15	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Rubble land-----	---	---	---	---	---	---	---	---	---	---	---	---
97:												
Rillino---------	0-2	Gravelly loamy sand	GC, GM, SC, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	0-25	NP-10
	2-16	Gravelly sandy clay loam	GC-GM, SC-SM	A-1, A-2, A-4	0	0	55-80	50-75	40-70	20-40	30-35	5-10
	16-27	Gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5
	27-60	Gravelly loamy sand	GC, GC-GM, GM	A-1, A-2	0	0	30-55	25-50	15-35	15-20	0-25	NP-10

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
98:												
Rillino---------	0-2	Gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5
	2-16	Gravelly sandy clay loam	GC-GM, SC-SM	A-1, A-2, A-4	0	0	55-80	50-75	40-70	20-40	30-35	5-10
	16-27	Gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5
	27-60	Gravelly loamy sand	GC, GC-GM, GM	A-1, A-2	0	0	30-55	25-50	15-35	15-20	0-25	NP-10
Tres Hermanos---	0-2	Gravelly clay loam	CL, GC, SC	A-2, A-6	0	0	55-80	50-75	45-75	35-60	30-35	10-15
	2-26	Gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2, A-4, A-6	0	0	55-80	50-75	40-70	20-40	30-40	5-15
	26-60	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	30-50	15-30	15-25	NP-10
99:												
Ripley----------	0-2	Silt loam	ML	A-4	0	0	90-100	90-100	80-90	70-90	15-30	NP-10
	2-26	Silt loam	ML	A-4	0	0	90-100	90-100	80-90	70-90	15-30	NP-10
	26-60	Fine sand	SM	A-2	0	0	90-100	90-100	70-80	20-30	0-0	NP-5
100:												
Riverbend family	0-2	Very cobbly sandy loam	GC-GM, GM	A-1	0	25-35	30-55	25-50	15-35	15-20	15-25	NP-5
	2-11	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	30-55	25-50	15-35	15-20	15-25	NP-5
	11-60	Very gravelly loamy sand	GC-GM, GP-GM	A-1	0	0	30-55	25-50	10-40	5-15	10-20	NP-5
101:												
Riverbend-------	0-2	Very cobbly sandy loam	GC-GM, GM, GP-GM	A-1	0-5	20-30	45-55	40-50	20-25	10-20	15-25	NP-5
	2-7	Very gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1	0	0-5	55-65	45-55	25-30	15-25	20-25	NP-5
	7-60	Very cobbly loamy sand, very gravelly loamy sand, very gravelly sand	GM, GP-GM	A-1	0	0-15	45-55	40-50	15-25	5-15	15-20	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
102:												
Riverwash-------	---	---	---	---	---	---	---	---	---	---	---	---
Fluvaquents-----	---	---	---	---	---	---	---	---	---	---	---	---
103:												
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Hyder----------	0-2	Extremely stony loam	GC-GM, GM	A-1, A-2, A-4	30-40	45-55	30-55	25-50	20-50	15-40	15-25	NP-5
	2-7	Extremely cobbly loam	GC-GM, GM	A-1, A-2, A-4	0-5	40-50	30-55	25-50	20-50	15-40	15-25	NP-5
	>7	Unweathered bedrock			---	---	---	---	---	---	---	---
104:												
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Razorback-------	0-2	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-10	20-30	15-25	5-20	0-15	15-25	NP-5
	2-15	Very gravelly loam	GC-GM, GM	A-1	0-5	0-5	20-30	15-25	15-25	10-25	15-25	NP-5
	>15	Unweathered bedrock			---	---	---	---	---	---	---	---
105:												
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Sunrock---------	0-2	Extremely gravelly fine sandy loam	GC-GM, GM, GP-GM	A-1	0	0-15	20-30	15-25	10-25	5-15	15-25	NP-5
	2-5	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	5-6	Weathered bedrock			---	---	---	---	---	---	---	---
	>6	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
106:												
Romero----------	0-1	Extremely cobbly sandy loam	GC-GM, GM	A-1	0-10	30-45	30-55	25-50	15-30	5-15	15-25	NP-5
	1-6	Very gravelly sandy clay loam	GC	A-1, A-2	0-5	0-10	30-55	25-50	25-45	10-30	30-40	5-15
	6-60	Weathered bedrock			---	---	---	---	---	---	---	---
Chiricahua------	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	10-15	25-55	20-50	10-35	5-20	15-25	NP-5
	1-6	Sandy clay	CH, CL, SC	A-7	0	0-5	80-95	75-90	65-85	35-55	40-60	20-35
	6-14	Sandy clay	CH, CL, SC	A-7	0	0-5	80-95	75-90	65-85	35-55	40-60	20-35
	14-16	Gravelly sandy clay	GC, SC	A-2, A-7	0	0-5	55-80	50-75	40-70	20-45	40-60	20-35
	16-22	Weathered bedrock			---	---	---	---	---	---	---	---
	>22	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
107:												
Romero----------	0-1	Extremely cobbly sandy loam	GW-GM	A-1	5-15	35-45	30-55	25-50	15-30	5-15	15-25	NP-5
	1-6	Very gravelly sandy clay loam	GC	A-1, A-2	0-5	0-10	30-55	25-50	25-45	10-30	30-40	5-15
	6-60	Weathered bedrock			---	---	---	---	---	---	---	---
Lampshire-------	0-1	Gravelly coarse sandy loam	SC-SM, SM	A-2, A-1	0	0	55-80	50-75	25-45	15-30	20-25	NP-5
	1-6	Very gravelly sandy loam	SM	A-1	0	0-5	50-60	40-50	23-35	10-20	15-25	NP-5
	6-17	Weathered bedrock			---	---	---	---	---	---	---	---
	>17	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
107:												
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
108:												
Rositas family--	0-17	Fine sand	SM, SP-SM	A-1, A-2, A-3	0	0	100	80-100	40-80	5-25	10-20	NP-5
	17-60	Sand, fine sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0	0	100	80-100	40-85	5-30	10-20	NP-5
Superstition----	0-1	Gravelly fine sand	GC-GM, GM, SM, SP-SM	A-1, A-2	0	0	55-80	50-75	30-60	10-25	10-20	NP-5
	1-7	Fine sand	SC-SM, SM	A-2	0	0	80-100	75-100	50-80	15-30	10-20	NP-5
	7-60	Fine sand	SC-SM, SM	A-2	0	0	80-100	75-100	50-80	15-30	10-20	NP-5
Torriorthents---	---	---	---	---	---	---	---	---	---	---	---	---
109:												
Rositas---------	0-1	Sand	SM, SP-SM	A-2, A-3	0	0	100	100	50-70	5-15	10-20	NP-5
	1-60	Sand	SM, SP-SM	A-2, A-3	0	0	100	100	50-70	5-15	10-20	NP-5
Superstition family---------	0-2	Fine sand	SC-SM, SM	A-2	0	0	80-100	75-100	50-80	15-35	10-20	NP-5
	2-35	Fine sand	SC-SM, SM	A-2	0	0	80-100	75-100	50-80	15-35	10-20	NP-5
	35-60	Fine sand	SC-SM, SM	A-2	0	0	80-100	75-100	50-80	15-35	10-20	NP-5
Torriorthents---	---	---	---	---	---	---	---	---	---	---	---	---
110:												
Stagecoach------	0-2	Very gravelly loam	GC-GM, GM	A-1, A-2, A-4	0	0-10	30-55	25-50	20-50	15-40	15-25	NP-5
	2-19	Gravelly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	15-25	NP-5
	19-60	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	15-35	5-15	15-25	NP-5
111:												
Stagecoach------	0-2	Very gravelly loam	GC-GM, GM	A-1, A-2, A-4	0	0-10	30-55	25-50	20-50	15-40	15-25	NP-5
	2-19	Gravelly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	15-25	NP-5
	19-60	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	15-35	5-15	15-25	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
112:												
Stagecoach------	0-2	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0-15	30-55	25-50	15-35	5-15	15-25	NP-5
	2-19	Gravelly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	15-25	NP-5
	19-60	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	15-35	5-15	15-25	NP-5
113:												
Stagecoach------	0-2	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0-15	30-55	25-50	15-35	5-15	15-25	NP-5
	2-19	Gravelly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	15-25	NP-5
	19-60	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	15-35	5-15	15-25	NP-5
114:												
Stagecoach------	0-2	Very gravelly loamy sand	GC-GM, GP-GM	A-1	0	0-10	30-55	25-50	10-40	5-15	10-20	NP-5
	2-19	Gravelly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	15-25	NP-5
	19-60	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	15-35	5-15	15-25	NP-5
Topawa family---	0-2	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	5-25	30-55	25-50	15-30	5-15	15-25	NP-5
	2-23	Extremely cobbly sandy clay loam	GC, GP-GC	A-1, A-2	0	30-45	30-55	25-50	25-45	10-30	30-40	5-15
	23-58	Very gravelly sandy loam	GC-GM, GM	A-1	0	5-25	30-55	25-50	15-35	15-20	15-25	NP-5
	58-60	Very gravelly sandy clay loam	GC, GP-GC	A-1, A-2	0	0	35-55	25-55	25-45	10-30	30-40	5-15

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
114:												
Eba----------	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	1-28	Very gravelly sandy clay	GC	A-2	0	0-5	35-55	25-50	25-50	15-30	35-55	15-35
	28-38	Very gravelly sandy clay loam	GC, GM, GP-GC, GP-GM	A-1, A-2	0	0-5	35-55	25-50	25-45	10-30	30-40	5-15
	38-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-10	35-55	25-50	15-35	15-20	15-25	NP-5
115:												
Stagecoach------	0-2	Very gravelly loamy sand	GC-GM, GP-GM	A-1	0	0-10	30-55	25-50	10-40	5-15	10-20	NP-5
	2-19	Gravelly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	15-25	NP-5
	19-60	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	15-35	5-15	15-25	NP-5
Topawa family---	0-2	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	5-25	30-55	25-50	15-30	5-15	15-25	NP-5
	2-23	Extremely cobbly sandy clay loam	GC, GP-GC	A-1, A-2	0	30-45	30-55	25-50	25-45	10-30	30-40	5-15
	23-58	Very gravelly sandy loam	GC-GM, GM	A-1	0	5-25	30-55	25-50	15-35	15-20	15-25	NP-5
	58-60	Very gravelly sandy clay loam	GC, GP-GC	A-1, A-2	0	0	35-55	25-55	25-45	10-30	30-40	5-15
Eba----------	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	0	35-55	25-50	15-35	15-20	15-25	NP-5
	1-28	Very gravelly sandy clay	GC	A-2	0	0-5	35-55	25-50	25-50	15-30	35-55	15-35
	28-38	Very gravelly sandy clay loam	GC, GM, GP-GC, GP-GM	A-1, A-2	0	0-5	35-55	25-50	25-45	10-30	30-40	5-15
	38-60	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-10	35-55	25-50	15-35	15-20	15-25	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
116:												
Sunrock---------	0-2	Extremely gravelly sandy loam	GW-GM	A-1	0	5-10	20-30	15-25	10-20	5-10	20-25	NP-5
	2-5	Very gravelly sandy loam	GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	>5	Unweathered bedrock			---	---	---	---	---	---	---	---
117:												
Sunrock---------	0-2	Extremely gravelly sandy loam	GP-GM, GW-GM	A-1	0	5-10	20-30	15-25	10-20	5-10	20-25	NP-5
	2-5	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	5-6	Weathered bedrock			---	---	---	---	---	---	---	---
	>6	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
118:												
Tombstone-------	0-1	Extremely cobbly loam	GC-GM, GM	A-1, A-2, A-4	5-20	45-55	30-55	25-50	20-50	15-40	15-25	NP-5
	1-4	Very gravelly loam	GC-GM, GM	A-1, A-2, A-4	0	5-20	30-55	25-50	20-50	15-40	15-25	NP-5
	4-60	Very gravelly loam	GC-GM, GM	A-1, A-2, A-4	0	5-20	30-55	25-50	20-50	15-40	15-25	NP-5
Caralampi-------	0-3	Very gravelly loamy sand	GW-GM	A-1	0	0-20	35-45	30-40	15-30	5-10	10-15	NP
	3-18	Very gravelly sandy clay loam	GC-GM, GC	A-2, A-1	0	0-5	30-55	25-55	25-45	10-30	25-35	5-15
	18-50	Very gravelly sandy loam	GM	A-1	0	0	30-50	25-50	15-35	10-20	10-25	NP-5
	50-58	Gravelly loamy sand	SM	A-1, A-2	0	0	65-85	55-75	45-65	20-30	0-15	NP
	58-60	Gravelly loam	CL, CL-ML, SC, SC-SM	A-2, A-4	0	0	55-80	50-75	40-70	30-55	20-30	5-10

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
118:												
Eloma----------	0-1	Very cobbly sandy loam	GM, SC-SM, SM, GC-GM	A-1	0	30-50	55-80	50-70	30-50	15-20	15-25	NP-5
	1-3	Very cobbly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2, A-4, A-6	0	30-50	55-80	50-75	40-70	20-40	30-40	5-15
	3-40	Very cobbly clay	CH, CL, GC, SC	A-6, A-7	0	30-50	55-80	50-75	45-75	40-70	35-55	15-35
	40-60	Extremely cobbly sandy clay	GC	A-2	0	40-55	30-55	25-50	25-50	15-30	40-50	20-30
119:												
Torriorthents---	---	---	---	---	---	---	---	---	---	---	---	---
120:												
Torriorthents---	---	---	---	---	---	---	---	---	---	---	---	---
121:												
Tumarion--------	0-3	Very cobbly loam	GC, GC-GM	A-2, A-4	0	35-55	55-65	45-55	40-50	25-40	25-30	5-10
	3-10	Extremely gravelly loam	GC, GC-GM	A-1, A-2	0	0-5	25-30	15-20	10-20	5-15	20-30	5-10
	10-12	Indurated			---	---	---	---	---	---	---	---
	>12	Unweathered bedrock			---	---	---	---	---	---	---	---
122:												
Tumarion--------	0-3	Very cobbly loam	GC, GC-GM	A-2, A-4	0	35-55	55-65	45-55	40-50	25-40	25-30	5-10
	3-10	Extremely gravelly loam, extremely gravelly fine sandy loam	GC, GC-GM, GP-GC	A-1, A-2	0	0-5	25-30	15-20	10-20	5-15	20-30	5-10
	10-12	Indurated			---	---	---	---	---	---	---	---
	>12	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
123:												
Tyro----------	0-1	Extremely stony sandy loam	GC-GM, GM	A-1, A-2, A-4	30-40	45-55	30-55	25-50	20-50	15-40	15-25	NP-5
	1-6	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	6-9	Very gravelly coarse sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	10-30	10-20	20-25	NP-5
	>9	Indurated			---	---	---	---	---	---	---	---
124:												
Tyro----------	0-1	Very stony loam	GC-GM, GM	A-1, A-2, A-4	40-50	0	45-55	40-50	35-50	25-40	15-25	NP-5
	1-6	Very gravelly sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	15-35	10-20	20-25	NP-5
	6-9	Very gravelly coarse sandy loam	GC-GM, GM, GP-GM	A-1	0	0	30-55	25-50	10-30	10-20	20-25	NP-5
	>9	Indurated			---	---	---	---	---	---	---	---
125:												
Vekol family----	0-4	Gravelly loamy sand	GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-20	NP-5
	4-10	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0-5	55-80	50-75	30-50	15-30	15-25	NP-5
	10-26	Gravelly sandy clay	GC, SC	A-2, A-6, A-7	0	0	55-80	50-75	40-70	20-45	35-55	15-35
	26-40	Gravelly sandy clay loam	GC, SC	A-1, A-2, A-4, A-6	0	0	55-80	50-75	40-70	20-40	30-40	5-15
	40-60	Very gravelly sand	SW	A-1	0	0	30-55	25-50	10-35	0-10	10-20	NP-5
126:												
Vekol family----	0-4	Gravelly loamy sand	GM, GP-GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-20	NP-5
	4-10	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2	0	0-5	55-80	50-75	30-50	15-30	15-25	NP-5
	10-26	Gravelly sandy clay	GC, SC	A-2, A-6, A-7	0	0	55-80	50-75	40-70	20-45	35-55	15-35
	26-40	Gravelly sandy clay loam	GC, SC	A-1, A-2, A-4, A-6	0	0	55-80	50-75	40-70	20-40	30-40	5-15
	40-60	Very gravelly sand	GP, GP-GM, SP, SP-SM	A-1	0	0	30-55	25-50	10-35	0-10	10-20	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
127:												
Water----------	---	---	---	---	---	---	---	---	---	---	---	---
128:												
Whitehills------	0-2	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	15-30	NP-10
	2-7	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	15-30	NP-10
	7-19	Very gravelly clay loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-50	20-40	30-35	10-15
	19-27	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	15-30	NP-10
	>27	Indurated			---	---	---	---	---	---	---	---
129:												
Whitehills------	0-2	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	15-30	NP-10
	2-7	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	15-30	NP-10
	7-19	Very gravelly clay loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-50	20-40	30-35	10-15
	19-27	Very gravelly loam	GC, GC-GM, GM	A-1, A-2, A-4	0	0-15	30-55	25-50	20-50	15-40	15-30	NP-10
	>27	Indurated			---	---	---	---	---	---	---	---
130:												
White House family---------	0-1	Very gravelly loamy sand	GM	A-1	0	0	40-50	35-45	15-30	5-15	0-10	NP
	1-15	Very gravelly sandy clay loam	GC	A-1, A-2	0	0	35-55	25-50	25-45	10-30	30-40	5-15
	15-21	Gravelly clay	CH	A-7	0	0	60-80	55-75	50-75	50-70	50-60	20-35
	21-32	Clay	CH, CL	A-6, A-7	0	0	100	100	90-100	75-95	35-55	15-35
	32-43	Gravelly sandy clay loam	GC, SC	A-1, A-2, A-4, A-6	0	0	55-80	50-75	40-70	20-40	30-40	5-15
	43-60	Gravelly loamy sand	GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-20	NP-5

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
131:												
White House-----	0-1	Gravelly loamy sand	GC, GM, SC-SM, SM	A-2, A-1	0	0-5	55-80	50-75	25-55	10-20	0-30	NP-10
	1-5	Sandy clay loam	CL, SC	A-2, A-4, A-6	0	0-5	95-100	90-100	70-90	30-55	30-40	5-15
	5-23	Sandy clay	CH, CL, SC	A-6, A-7	0	0-5	80-100	75-100	65-95	35-60	35-55	15-35
	23-42	Gravelly sandy clay loam	GC, SC	A-1, A-2, A-4, A-6	0	0	55-80	50-75	40-70	20-40	30-40	5-15
	42-60	Gravelly loamy sand	GC, GM, SC-SM, SM	A-1, A-2	0	0	55-80	50-75	25-55	10-20	10-25	NP-15
132:												
Wikieup---------	0-1	Extremely cobbly coarse sandy loam	GC-GM, GM, GP-GM	A-1	0	30-45	30-55	25-50	15-30	5-15	15-25	NP-5
	1-5	Gravelly coarse sandy loam	GC-GM, GM, SC-SM, SM	A-1	0	0-10	55-80	50-75	25-45	10-20	15-24	NP-5
	5-8	Weathered bedrock			---	---	---	---	---	---	---	---
	>8	Unweathered bedrock			---	---	---	---	---	---	---	---
Mutang----------	0-3	Extremely gravelly sandy loam	GC-GM, GM, GP	A-1	0	0-5	20-30	15-25	5-20	0-15	15-25	NP-5
	3-5	Very gravelly clay loam	GC	A-2, A-6	0	0-5	30-55	25-50	20-50	20-40	25-35	10-15
	5-15	Gravelly clay	CH, CL, GC, SC	A-7	0	0-5	55-80	50-75	45-75	40-70	35-55	20-35
	15-22	Weathered bedrock			---	---	---	---	---	---	---	---
	>22	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
133:												
Mutang----------	0-1	Gravelly sandy loam	SM	A-2	0	0	60-80	55-75	35-60	15-25	20-25	NP-5
	1-5	Loam	ML	A-4	0	0-5	85-100	80-100	70-95	50-75	25-30	NP-5
	5-15	Gravelly clay	CH	A-7	0	0-15	70-80	65-75	50-70	50-60	50-60	30-40
	15-22	Weathered bedrock			---	---	---	---	---	---	---	---
	>22	Unweathered bedrock			---	---	---	---	---	---	---	---
Wikieup---------	0-1	Extremely cobbly coarse sandy loam	GC-GM, GM, GP-GM	A-1	0	30-45	30-55	25-50	15-30	5-15	15-25	NP-5
	1-5	Gravelly coarse sandy loam	GC-GM, GM, SC-SM, SM	A-1	0	0-10	55-80	50-75	25-45	10-20	15-24	NP-5
	5-8	Weathered bedrock			---	---	---	---	---	---	---	---
	>8	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
134:												
Wikieup---------	0-1	Very gravelly sandy loam	GC-GM, GM	A-1	0	0-10	30-55	25-50	15-35	15-20	15-25	NP-5
	1-5	Gravelly coarse sandy loam	GC-GM, GM, SC-SM, SM	A-1	0	0-10	55-80	50-75	25-45	10-20	15-24	NP-5
	5-8	Weathered bedrock			---	---	---	---	---	---	---	---
	>8	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
135:												
Yahana family---	0-4	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-45	10-20
	4-8	Stratified silty clay	CH, CL, CL-ML	A-4, A-6, A-7	0	0	100	100	85-100	50-95	20-60	5-35
	8-29	Silt loam	CL, CL-ML	A-4	0	0	95-100	90-100	80-100	65-90	25-30	5-10
	29-41	Stratified silty clay	CH, CL, CL-ML	A-4, A-6, A-7	0	0	100	100	85-100	50-95	20-60	5-35
	41-56	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-45	10-20
	56-60	Fine sand	SM	A-2	0	0	100	100	60-80	20-25	0-14	NP
136:												
Tumarion--------	0-2	Extremely cobbly sandy loam	SW-SM	A-1	5-10	80-90	60-80	55-75	20-40	5-10	15-25	NP-5
	2-15	Very cobbly sandy loam	SW-SM	A-1	0	30-40	60-80	55-75	20-40	5-10	15-25	NP-5
	15-19	Indurated			---	---	---	---	---	---	---	---
	>19	Unweathered bedrock			---	---	---	---	---	---	---	---
Nickel family---	0-4	Extremely stony loam	CL-ML	A-4	40-60	30-50	80-90	75-85	70-80	50-60	20-25	5-10
	4-23	Very cobbly silt loam	GC, SC	A-2, A-4	0	30-60	45-70	40-65	30-60	25-50	26-32	7-10
	23-51	Very cobbly loam	GM	A-1	0	30-45	50-60	45-55	25-50	15-20	20-25	NP-10
	51-60	Very cobbly sandy loam	SW-SM	A-1	0	30-45	60-80	55-75	20-40	5-10	15-25	NP-5
137:												
Valena----------	0-2	Sandy loam	SC-SM, SM	A-4, A-2	0	0	80-100	75-100	45-70	20-40	20-25	NP-5
	2-7	Sandy loam	SM	A-4, A-2	0	0	80-100	75-100	45-70	20-40	20-25	NP-5
	7-12	Sandy clay loam	SC-SM, SC	A-6, A-4	0	0	80-100	75-100	60-90	25-55	25-35	5-15
	>12	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
137:												
Carri family----	0-2	Sandy loam	SC, SC-SM	A-2, A-4	0	0	95-100	90-100	55-70	30-40	25-30	5-10
	2-34	Sandy clay loam	CL, SC	A-6	0	0	95-100	90-100	75-90	35-55	30-40	10-15
	34-44	Gravelly coarse sandy loam	SC-SM, SM	A-2	0	0	70-85	60-75	35-50	20-30	15-20	NP-5
	44-60	Loam	CL-ML	A-4	0	0	85-100	80-100	50-75	50-75	20-25	NP-5
138:												
Nodman----------	0-2	Gravelly sandy loam	GC	A-2	0	0	65-90	50-75	30-50	20-35	20-30	5-10
	2-10	Very gravelly sandy clay loam	GC-GM	A-2	0	0	45-60	30-45	25-40	15-25	30-40	10-20
	10-17	Weathered bedrock			---	---	---	---	---	---	---	---
	17-60	Weathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
139:												
Nodman----------	0-1	Gravelly sandy loam	SM	A-2	0	0-15	75-90	60-75	35-50	15-30	15-30	NP-5
	1-6	Extremely gravelly sandy loam	GW-GM	A-1	0	0-20	25-40	10-25	5-20	5-10	15-30	NP-5
	6-12	Very cobbly sandy clay loam	SC	A-2	0	55-75	70-85	55-70	45-65	25-35	30-45	25-35
	12-60	Weathered bedrock			---	---	---	---	---	---	---	---
Romero family---	0-2	Very gravelly sandy loam	GC-GM	A-2	0	0-10	35-50	30-45	15-30	10-15	20-30	5-10
	2-7	Extremely cobbly sandy loam	GC-GM	A-2	0	50-60	35-50	30-45	15-30	10-15	20-30	5-10
	7-21	Weathered bedrock			---	---	---	---	---	---	---	---
	>21	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 15.--Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
1:												
Akela----------	0-1	7-18	1.25-1.55	0.6-2	0.02-0.09	0.0-2.9	0.5-1.0	.05	.32	1	8	0
	1-5	7-18	1.25-1.55	0.6-2	0.02-0.09	0.0-2.9	0.5-1.0	.10	.43			
	>5	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
Rubble land---------	---	---	---	---	---	---	---	---	---	-	---	---
2:												
Akela----------	0-1	7-18	1.25-1.55	0.6-2	0.02-0.09	0.0-2.9	0.5-1.0	.05	.32	1	8	0
	1-5	7-18	1.25-1.55	0.6-2	0.02-0.09	0.0-2.9	0.5-1.0	.10	.43			
	>5	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
Rubble land---------	---	---	---	---	---	---	---	---	---	-	---	---
3:												
Alko family---------	0-1	7-18	1.25-1.55	2-6	0.06-0.14	0.0-2.9	0.5-1.0	.17	.43	1	5	56
	1-15	7-18	1.25-1.55	2-6	0.07-0.15	0.0-2.9	0.5-1.0	.20	.43			
	15-31	---	---	0.00- 0.00	---	---	---	---	---			
	31-60	0-15	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.02			
4:												
Alko family---------	0-1	7-18	1.25-1.55	2-6	0.06-0.14	0.0-2.9	0.5-1.0	.17	.43	1	5	56
	1-15	7-18	1.25-1.55	2-6	0.07-0.15	0.0-2.9	0.5-1.0	.20	.43			
	15-31	---	---	0.00- 0.00	---	---	---	---	---			
	31-60	0-15	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.02			
5:												
Amole----------	0-1	5-20	1.35-1.55	6-20	0.07-0.13	0.0-2.9	0.5-1.0	.15	.17	2	3	86
	1-19	5-20	1.35-1.75	6-20	0.05-0.11	0.0-2.9	0.5-1.0	.10	.15			
	19-60	0-15	1.45-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.05	.10			
6:												
Amole----------	0-1	5-20	1.35-1.55	6-20	0.07-0.13	0.0-2.9	0.5-1.0	.15	.17	2	3	86
	1-19	5-20	1.35-1.75	6-20	0.05-0.11	0.0-2.9	0.5-1.0	.10	.15			
	19-60	0-15	1.45-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.05	.10			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
7:												
Anthony----------	0-1	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17	5	5	56
	1-35	5-18	1.35-1.75	2-6	0.04-0.10	0.0-2.9	0.5-1.0	.10	.15			
	35-60	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17			
Dudleyville---------	0-2	0-15	1.55-1.65	20-40	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17	5	3	86
	2-12	0-15	1.60-1.65	20-40	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17			
	12-60	0-10	1.55-1.65	20-40	0.03-0.06	0.0-2.9	0.5-1.0	.05	.15			
8:												
Aquarius----------	0-2	18-25	1.15-1.40	0.6-2	0.08-0.12	0.0-2.9	1.0-3.0	.05	.55	5	7	38
	2-8	27-40	1.25-1.55	0.2-0.6	0.14-0.21	3.0-6.0	1.0-3.0	.24	.32			
	8-24	40-60	1.35-1.45	0.06-0.2	0.07-0.14	9.0-10.9	0.5-1.0	.10	.28			
	24-42	40-50	1.15-1.30	0.06-0.2	0.13-0.17	9.0-10.9	0.2-0.6	.37	.37			
	42-50	40-50	1.15-1.30	0.06-0.2	0.13-0.17	9.0-10.9	0.2-0.6	.37	.37			
	50-60	35-40	1.10-1.20	0.2-0.6	0.15-0.18	3.0-6.0	0.2-0.6	.37	.55			
Akela----------	0-1	7-18	1.25-1.55	0.6-2	0.02-0.09	0.0-2.9	0.5-1.0	.05	.32	1	8	0
	1-5	7-18	1.25-1.55	0.6-2	0.02-0.09	0.0-2.9	0.5-1.0	.10	.43			
	>5	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
9:												
Arizo----------	0-2	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17	5	5	56
	2-11	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17			
	11-15	5-18	1.35-1.55	2-6	0.06-0.13	0.0-2.9	0.5-1.0	.15	.17			
	15-35	0-15	1.45-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.10			
	35-60	0-15	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.5-1.0	.02	.10			
Franconia----------	0-2	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24	5	3	86
	2-33	0-15	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.15	.17			
	33-60	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.15	.17			
Riverwash----------	---	---	---	---	---	---	---	---	---	-	8	0
10:												
Arizo----------	0-2	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17	5	5	56
	2-11	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17			
	11-15	5-18	1.35-1.55	2-6	0.06-0.13	0.0-2.9	0.5-1.0	.15	.17			
	15-35	0-15	1.45-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.10			
	35-60	0-15	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.5-1.0	.02	.10			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
10:												
Franconia----------	0-2	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24	5	3	86
	2-18	0-15	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.15	.17			
	18-33	0-15	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.15	.17			
	33-60	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17			
Riverwash----------	---	---	---	---	---	---	---	---	---	-	8	0
11:												
Bartmus----------	0-2	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	1.0-3.0	.10	.24	1	6	48
	2-6	20-27	1.55-1.65	0.6-2	0.05-0.10	3.0-6.0	1.0-2.0	.15	.32			
	6-19	---	---	0.00- 0.00	---	---	---	---	---			
	>19	---	---	0.00- 0.00	---	---	---	---	---			
12:												
Bonita family-------	0-2	27-40	1.25-1.55	0.2-0.6	0.05-0.14	0.0-2.9	1.0-3.0	.05	.24	4	8	0
	2-35	40-60	1.15-1.55	0.06-0.2	0.09-0.15	6.0-9.0	1.0-3.0	.15	.24			
	35-60	18-27	1.25-1.55	0.6-2	0.04-0.12	0.0-2.9	1.0-3.0	.10	.28			
13:												
Bonita family-------	0-2	27-40	1.25-1.55	0.2-0.6	0.05-0.14	0.0-2.9	1.0-3.0	.05	.24	4	8	0
	2-35	40-60	1.15-1.55	0.06-0.2	0.09-0.15	6.0-9.0	1.0-3.0	.15	.24			
	35-60	18-27	1.25-1.55	0.6-2	0.04-0.12	0.0-2.9	1.0-3.0	.10	.28			
Gonzales----------	0-1	20-27	1.20-1.30	0.2-0.6	0.08-0.11	3.0-6.0	1.0-3.0	.17	.64	1	8	0
	1-14	40-55	1.30-1.40	0.06-0.2	0.14-0.17	6.0-9.0	1.0-3.0	.28	.32			
	14-17	---	---	0.00-0.06	---	---	---	---	---			
	>17	---	---	0.00- 0.00	---	---	---	---	---			
14:												
Brazito family------	0-7	0-10	1.55-1.65	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.05	.05	5	1	220
	7-14	0-10	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.28	.28			
	14-28	0-10	1.55-1.65	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.05	.05			
	28-60	0-10	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.28	.28			
15:												
Bucklebar----------	0-4	5-18	1.35-1.55	2-6	0.07-0.13	0.0-2.9	0.5-1.0	.15	.17	5	3	86
	4-37	20-27	1.55-1.75	0.6-2	0.12-0.19	3.0-6.0	0.5-1.0	.17	.20			
	37-60	5-18	1.35-1.75	2-6	0.06-0.12	0.0-2.9	0.5-1.0	.15	.15			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
16:												
Cacique family------	0-1	7-27	1.25-1.55	0.6-2	0.03-0.07	0.0-2.9	0.5-1.0	.05	.28	2	8	0
	1-8	20-35	1.55-1.75	0.6-2	0.09-0.16	0.0-2.9	0.5-1.0	.10	.17			
	8-35	27-40	1.25-1.55	0.6-2	0.10-0.18	0.0-2.9	0.5-1.0	.15	.28			
	35-60	---	---	0.00- 0.00	---	---	---	---	---			
17:												
Castaneda----------	0-1	7-27	1.35-1.55	2-6	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37	2	8	0
	1-9	20-35	1.25-1.55	0.6-2	0.12-0.21	3.0-6.0	0.5-1.0	.15	.32			
	9-17	20-35	1.35-1.65	0.6-2	0.12-0.18	3.0-6.0	0.5-1.0	.15	.32			
	17-32	7-27	1.25-1.75	2-6	0.05-0.12	0.0-2.9	0.5-1.0	.15	.37			
	32-41	---	---	0.00- 0.00	---	---	---	---	---			
	41-60	0-15	1.45-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.05	.17			
18:												
Castaneda----------	0-1	7-27	1.35-1.55	2-6	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37	2	8	0
	1-9	20-35	1.25-1.55	0.6-2	0.12-0.21	3.0-6.0	0.5-1.0	.15	.32			
	9-17	20-35	1.35-1.65	0.6-2	0.12-0.18	3.0-6.0	0.5-1.0	.15	.32			
	17-32	7-27	1.25-1.75	2-6	0.05-0.12	0.0-2.9	0.5-1.0	.15	.37			
	32-41	---	---	0.00- 0.00	---	---	---	---	---			
	41-60	0-15	1.45-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.05	.17			
19:												
Carrizo family------	0-1	2-10	1.45-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.02	.10	5	5	56
	1-9	2-10	1.45-1.65	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.10	.10			
	9-60	0-10	1.55-1.65	20-40	0.01-0.04	0.0-2.9	0.5-1.0	.02	.02			
20:												
Carrizo family------	0-1	2-10	1.45-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.02	.10	5	5	56
	1-9	2-10	1.45-1.65	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.10	.10			
	9-60	0-10	1.55-1.65	20-40	0.01-0.04	0.0-2.9	0.5-1.0	.02	.02			
Riverwash----------	---	---	---	---	---	---	---	---	---	-	8	0
21:												
Carrizo----------	0-1	2-10	1.45-1.55	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.02	.17	5	8	0
	1-23	2-10	1.45-1.55	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.02	.17			
	23-60	0-5	1.45-1.55	20-40	0.01-0.03	0.0-2.9	0.0-0.5	.02	.10			
Riverwash----------	---	---	---	---	---	---	---	---	---	-	8	0

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
22:												
Carrizo----------	0-1	0-10	1.55-1.65	20-40	0.01-0.05	0.0-2.9	0.5-1.0	.02	.02	5	3	86
	1-60	2-10	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.10			
Riverwash----------	---	---	---	---	---	---	---	---	---	-	8	0
23:												
Cave----------	0-1	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17	1	5	56
	1-7	5-18	1.35-1.75	2-6	0.04-0.10	0.0-2.9	0.5-1.0	.10	.15			
	7-28	---	---	0.00- 0.00	---	---	---	---	---			
	28-60	2-10	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.10			
24:												
Cave----------	0-1	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17	1	5	56
	1-7	5-18	1.35-1.75	2-6	0.04-0.10	0.0-2.9	0.5-1.0	.10	.15			
	7-28	---	---	0.00- 0.00	---	---	---	---	---			
	28-60	2-10	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.10			
25:												
Cellar----------	0-2	5-18	1.35-1.55	2-6	0.02-0.08	0.0-2.9	0.5-1.0	.05	.17	1	6	48
	2-10	5-18	1.35-1.55	2-6	0.02-0.08	0.0-2.9	0.5-1.0	.05	.17			
	10-13	---	---	0.00-0.06	---	---	---	---	---			
	>13	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
26:												
Cellar----------	0-2	5-18	1.35-1.55	2-6	0.02-0.08	0.0-2.9	0.5-1.0	.05	.17	1	6	48
	2-10	5-18	1.35-1.55	2-6	0.02-0.08	0.0-2.9	0.5-1.0	.05	.17			
	10-13	---	---	0.00-0.06	---	---	---	---	---			
	>13	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
27:												
Cellar----------	0-2	5-18	1.35-1.55	2-6	0.02-0.08	0.0-2.9	0.5-1.0	.05	.17	1	6	48
	2-10	5-18	1.35-1.55	2-6	0.02-0.08	0.0-2.9	0.5-1.0	.05	.17			
	10-13	---	---	0.00-0.06	---	---	---	---	---			
	>13	---	---	0.00- 0.00	---	---	---	---	---			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
27:												
Topock----------	0-2	5-18	1.45-1.65	2-6	0.03-0.05	0.0-2.9	1.0-2.0	.05	.24	2	8	0
	2-5	35-60	1.55-1.65	0.06-0.2	0.10-0.14	3.0-6.0	1.0-2.0	.10	.32			
	5-12	35-60	1.55-1.65	0.06-0.2	0.10-0.14	3.0-6.0	1.0-2.0	.32	.32			
	12-23	---	---	0.00-0.06	---	---	---	---	---			
	>23	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
28:												
Cherioni----------	0-1	18-27	1.25-1.55	0.6-2	0.03-0.11	0.0-2.9	0.5-1.0	.10	.32	1	6	48
	1-8	27-35	1.25-1.55	0.6-2	0.06-0.14	0.0-2.9	0.5-1.0	.10	.32			
	8-10	---	---	0.00- 0.00	---	---	---	---	---			
	>10	---	---	0.00- 0.00	---	---	---	---	---			
29:												
Chuckawalla---------	0-1	5-18	1.00-1.55	0.6-2	0.02-0.08	0.0-2.9	0.5-1.0	.05	.55	5	8	0
	1-5	18-27	1.25-1.55	0.6-2	0.08-0.15	0.0-2.9	0.5-1.0	.17	.32			
	5-20	18-27	1.25-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.10	.32			
	20-29	0-15	1.45-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.10			
	29-34	5-18	1.35-1.55	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.05	.17			
	34-60	0-15	1.45-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.02	.10			
Riverbend----------	0-2	7-15	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.17	.64	5	6	48
	2-7	10-18	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.10	.28			
	7-18	5-12	1.55-1.65	6-20	0.03-0.05	0.0-2.9	0.5-1.0	.05	.17			
	18-34	0-15	1.45-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.02	.10			
	34-60	0-5	1.60-1.75	20-40	0.03-0.05	0.0-2.9	0.2-0.8	.02	.10			
30:												
Chuckawalla family--	0-1	5-27	1.00-1.55	0.6-2	0.04-0.08	0.0-2.9	0.5-1.0	.10	.49	5	8	0
	1-10	7-27	1.25-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.10	.37			
	10-23	20-35	1.55-1.75	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.05	.17			
	23-60	5-20	1.35-1.55	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.05	.17			
Riverbend family----	0-2	7-18	1.45-1.65	6-20	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	2	6	48
	2-11	7-18	1.45-1.65	6-20	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	11-60	0-15	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.05	.17			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
31:												
Cipriano----------	0-1	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.15	.37	1	6	48
	1-10	7-18	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.15	.37			
	>10	---	---	0.00- 0.00	---	---	---	---	---			
32:												
Cline----------	0-1	18-27	1.35-1.55	0.6-2	0.05-0.12	3.0-6.0	0.0-1.0	.15	.37	1	6	48
	1-11	15-25	1.35-1.55	0.6-2	0.05-0.12	3.0-6.0	0.0-1.0	.15	.37			
	11-18	---	---	0.00- 0.00	---	---	---	---	---			
	>18	---	---	0.00- 0.00	---	---	---	---	---			
33:												
Cline----------	0-1	18-27	1.35-1.55	0.6-2	0.05-0.12	3.0-6.0	0.0-1.0	.15	.37	1	6	48
	1-11	15-25	1.35-1.55	0.6-2	0.05-0.12	3.0-6.0	0.0-1.0	.15	.37			
	11-18	---	---	0.00- 0.00	---	---	---	---	---			
	>18	---	---	0.00- 0.00	---	---	---	---	---			
34:												
Continental---------	0-1	5-20	1.25-1.75	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	5	6	48
	1-19	20-35	1.55-1.75	0.2-0.6	0.05-0.10	3.0-6.0	0.5-1.0	.10	.32			
	19-39	35-55	1.15-1.55	0.06-0.2	0.14-0.16	6.0-9.0	0.5-1.0	.17	.20			
	39-60	27-40	1.35-1.65	0.2-0.6	0.17-0.21	3.0-6.0	0.5-1.0	.28	.32			
Tres Hermanos-------	0-2	5-20	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.24	5	5	56
	2-26	20-35	1.55-1.65	0.2-0.6	0.09-0.14	3.0-6.0	0.5-1.0	.15	.32			
	26-60	5-20	1.45-1.63	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			
35:												
Continental---------	0-1	5-20	1.25-1.75	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	5	6	48
	1-19	20-35	1.55-1.75	0.2-0.6	0.05-0.10	3.0-6.0	0.5-1.0	.10	.32			
	19-39	35-55	1.15-1.55	0.06-0.2	0.14-0.16	6.0-9.0	0.5-1.0	.17	.20			
	39-60	27-40	1.35-1.65	0.2-0.6	0.17-0.21	3.0-6.0	0.5-1.0	.28	.32			
Tres Hermanos-------	0-2	5-20	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.24	5	5	56
	2-26	20-35	1.55-1.65	0.2-0.6	0.09-0.14	3.0-6.0	0.5-1.0	.15	.32			
	26-60	5-20	1.45-1.63	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
36:												
Continental---------	0-1	5-20	1.25-1.75	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	5	6	48
	1-19	20-35	1.55-1.75	0.2-0.6	0.05-0.10	3.0-6.0	0.5-1.0	.10	.32			
	19-39	35-55	1.15-1.55	0.06-0.2	0.14-0.16	6.0-9.0	0.5-1.0	.17	.20			
	39-60	27-40	1.35-1.65	0.2-0.6	0.17-0.21	3.0-6.0	0.5-1.0	.28	.32			
Rillino----------	0-2	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	1.0-2.0	.15	.24	3	5	56
	2-8	20-27	1.55-1.65	0.6-2	0.09-0.14	0.0-2.9	0.5-1.0	.15	.32			
	8-16	20-27	1.55-1.65	0.6-2	0.09-0.14	0.0-2.9	0.5-1.0	.15	.32			
	16-27	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			
	27-39	2-10	1.55-1.65	6-20	0.06-0.09	0.0-2.9	0.5-1.0	.17	.17			
	39-54	2-10	1.55-1.65	6-20	0.06-0.09	0.0-2.9	0.5-1.0	.17	.17			
	54-60	2-10	1.55-1.65	6-20	0.06-0.09	0.0-2.9	0.5-1.0	.17	.17			
37:												
Continental---------	0-1	5-20	1.25-1.75	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	5	6	48
	1-19	20-35	1.55-1.75	0.2-0.6	0.05-0.10	3.0-6.0	0.5-1.0	.10	.32			
	19-39	35-55	1.15-1.55	0.06-0.2	0.14-0.16	6.0-9.0	0.5-1.0	.17	.20			
	39-60	27-40	1.35-1.65	0.2-0.6	0.17-0.21	3.0-6.0	0.5-1.0	.28	.32			
Rillino----------	0-2	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	1.0-2.0	.15	.24	3	5	56
	2-16	20-27	1.55-1.65	0.6-2	0.09-0.14	0.0-2.9	0.5-1.0	.15	.32			
	16-27	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			
	27-60	2-10	1.55-1.65	6-20	0.06-0.09	0.0-2.9	0.5-1.0	.17	.17			
38:												
Coolidge----------	0-2	5-20	1.25-1.75	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24	5	5	56
	2-27	5-20	1.25-1.75	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.17	.24			
	27-46	5-20	1.25-1.75	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.17	.24			
	46-60	5-20	1.25-1.75	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			
Denure----------	0-2	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17	5	3	86
	2-7	0-15	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.10	.17			
	7-18	5-20	1.65-1.75	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.20			
	18-60	5-20	1.65-1.75	2-6	0.07-0.12	0.0-2.9	0.5-1.0	.10	.20			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
39:												
Coolidge family-----	0-2	7-20	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.20	.37	4	5	56
	2-8	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			
	8-29	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.24	.24			
	29-41	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.24	.24			
	41-60	0-10	1.55-1.65	20-40	0.03-0.07	0.0-2.9	0.5-1.0	.05	.10			
Denure family-------	0-1	0-10	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.02	.17	5	5	56
	1-11	0-10	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.17	.17			
	11-60	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.24	.24			
40:												
Courthouse family---	0-2	7-18	1.25-1.50	0.6-2	0.05-0.12	0.0-2.9	1.0-2.0	.15	.37	1	6	48
	2-12	7-18	1.25-1.50	0.6-2	0.05-0.12	0.0-2.9	1.0-2.0	.15	.37			
	>12	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
Rubble land---------	---	---	---	---	---	---	---	---	---	-	---	---
41:												
Courthouse family---	0-2	7-18	1.25-1.50	0.6-2	0.05-0.12	0.0-2.9	1.0-2.0	.15	.37	1	8	0
	2-12	7-18	1.25-1.50	0.6-2	0.05-0.12	0.0-2.9	1.0-2.0	.15	.37			
	>12	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
Wagonbow----------	0-3	27-35	1.25-1.55	0.2-0.6	0.07-0.14	6.0-9.0	1.0-2.0	.10	.32	4	6	48
	3-6	27-35	1.25-1.55	0.2-0.6	0.12-0.18	6.0-9.0	1.0-2.0	.15	.32			
	6-50	40-60	1.35-1.45	0.06-0.2	0.10-0.14	6.0-9.0	1.0-2.0	.15	.20			
	50-60	27-35	1.25-1.55	0.2-0.6	0.07-0.14	3.0-6.0	1.0-2.0	.10	.32			
42:												
Far----------	0-5	7-18	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	2.0-4.0	.15	.37	1	7	38
	5-9	7-18	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	2.0-4.0	.15	.37			
	>9	---	---	0.00-0.06	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
43:												
Dutchflat----------	0-4	5-18	1.35-1.55	2-6	0.07-0.13	0.0-2.9	0.5-1.0	.15	.17	5	3	86
	4-37	20-27	1.55-1.75	0.6-2	0.12-0.19	3.0-6.0	0.5-1.0	.17	.20			
	37-60	5-18	1.35-1.75	2-6	0.06-0.12	0.0-2.9	0.5-1.0	.15	.15			
44:												
Dutchflat----------	0-2	5-20	1.35-1.55	2-6	0.11-0.15	0.0-2.9	0.5-1.0	.17	.24	5	3	86
	2-28	20-35	1.55-1.65	0.6-2	0.09-0.14	3.0-6.0	0.5-1.0	.15	.32			
	28-41	20-35	1.55-1.65	0.6-2	0.09-0.14	3.0-6.0	0.5-1.0	.15	.32			
	41-60	5-20	1.65-1.75	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
45:												
Gadsden----------	0-2	40-50	1.35-1.45	0.06-0.2	0.13-0.17	6.0-9.0	0.5-1.0	.24	.24	5	4	86
	2-56	35-55	1.35-1.55	0.06-0.2	0.14-0.16	6.0-9.0	0.5-1.0	.20	.20			
	56-60	5-20	1.25-1.35	2-6	0.13-0.17	0.0-2.9	0.5-1.0	.55	.55			
46:												
Gila----------	0-4	5-18	1.25-1.35	2-6	0.13-0.17	0.0-2.9	0.5-1.0	.55	.55	5	3	86
	4-12	5-27	1.00-1.55	0.6-2	0.15-0.21	0.0-2.9	0.5-1.0	.37	.43			
	12-21	5-18	1.25-1.35	0.6-2	0.13-0.17	0.0-2.9	0.5-1.0	.55	.55			
	21-29	0-15	1.45-1.55	2-6	0.08-0.12	0.0-2.9	0.5-1.0	.17	.20			
	29-60	27-40	1.25-1.55	0.6-2	0.17-0.21	3.0-6.0	0.5-1.0	.32	.37			
Glendale----------	0-10	30-35	1.25-1.55	0.2-0.6	0.17-0.21	3.0-6.0	0.5-1.0	.37	.37	4	5	56
	10-37	30-35	1.25-1.55	0.2-0.6	0.17-0.21	3.0-6.0	0.5-1.0	.37	.37			
	37-54	5-27	1.00-1.55	0.6-2	0.15-0.21	0.0-2.9	0.5-1.0	.43	.55			
	54-60	0-10	1.55-1.65	20-40	0.03-0.07	0.0-2.9	0.5-1.0	.10	.10			
47:												
Gila----------	0-4	5-18	1.25-1.35	2-6	0.13-0.17	0.0-2.9	0.5-1.0	.55	.55	5	3	86
	4-12	5-27	1.00-1.55	0.6-2	0.15-0.21	0.0-2.9	0.5-1.0	.37	.43			
	12-21	5-18	1.25-1.35	0.6-2	0.13-0.17	0.0-2.9	0.5-1.0	.55	.55			
	21-29	0-15	1.45-1.55	2-6	0.08-0.12	0.0-2.9	0.5-1.0	.17	.20			
	29-60	27-40	1.25-1.55	0.6-2	0.17-0.21	3.0-6.0	0.5-1.0	.32	.37			
Glendale----------	0-10	30-35	1.25-1.55	0.2-0.6	0.17-0.21	3.0-6.0	0.5-1.0	.37	.37	4	5	56
	10-21	30-35	1.25-1.55	0.2-0.6	0.17-0.21	3.0-6.0	0.5-1.0	.37	.37			
	21-37	30-35	1.25-1.55	0.2-0.6	0.17-0.21	3.0-6.0	0.5-1.0	.37	.37			
	37-54	5-27	1.00-1.55	0.6-2	0.15-0.21	0.0-2.9	0.5-1.0	.43	.55			
	54-60	0-10	1.55-1.65	20-40	0.03-0.07	0.0-2.9	0.5-1.0	.10	.10			
48:												
Goldroad----------	0-2	5-18	1.45-1.65	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.24	1	8	0
	2-13	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	---	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
49:												
Gonzales----------	0-1	20-30	1.20-1.30	0.2-0.6	0.08-0.11	3.0-6.0	1.0-3.0	.17	.64	1	7	38
	1-7	40-55	1.30-1.40	0.06-0.2	0.14-0.17	6.0-9.0	1.0-3.0	.28	.32			
	7-14	40-55	1.30-1.40	0.06-0.2	0.14-0.17	6.0-9.0	1.0-3.0	.28	.32			
	14-17	---	---	0.00-0.06	---	---	---	---	---			
	>17	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
50:												
Goodsprings family--	0-2	5-10	1.35-1.55	2-6	0.06-0.10	0.0-2.9	0.0-0.5	.10	.24	1	5	56
	2-18	7-12	1.25-1.55	0.6-2	0.09-0.14	0.0-2.9	0.0-0.5	.24	.49			
	18-39	---	---	0.00-0.06	---	---	---	---	---			
	39-60	0-5	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.02	.15			
51:												
Goodsprings family--	0-2	5-10	1.35-1.55	2-6	0.06-0.10	0.0-2.9	0.0-0.5	.10	.24	1	5	56
	2-18	7-12	1.25-1.55	0.6-2	0.09-0.14	0.0-2.9	0.0-0.5	.24	.49			
	18-39	---	---	0.00-0.06	---	---	---	---	---			
	39-60	0-5	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.02	.15			
52:												
Goodsprings family--	0-2	5-10	1.35-1.55	2-6	0.06-0.10	0.0-2.9	0.0-0.5	.10	.24	1	5	56
	2-18	7-12	1.25-1.55	0.6-2	0.09-0.14	0.0-2.9	0.0-0.5	.24	.49			
	18-39	---	---	0.00-0.06	---	---	---	---	---			
	39-60	0-5	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.02	.15			
53:												
Goodsprings family--	0-2	5-10	1.35-1.55	2-6	0.06-0.10	0.0-2.9	0.0-0.5	.10	.24	1	5	56
	2-18	7-12	1.25-1.55	0.6-2	0.09-0.14	0.0-2.9	0.0-0.5	.24	.49			
	18-39	---	---	0.00-0.06	---	---	---	---	---			
	39-60	0-5	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.02	.15			
54:												
Graham----------	0-2	7-27	1.35-1.55	0.06-2	0.07-0.12	0.0-2.9	1.0-3.0	.15	.37	1	7	38
	2-7	27-35	1.25-1.55	0.2-0.6	0.16-0.21	3.0-6.0	1.0-3.0	.24	.32			
	7-14	40-60	1.35-1.55	0.06-0.2	0.12-0.16	6.0-9.0	1.0-2.0	.15	.20			
	>14	---	---	0.00- 0.00	---	---	---	---	---			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
54:												
Arivaca----------	0-2	27-35	1.25-1.55	0.2-0.6	0.03-0.15	0.0-2.9	0.3-1.0	.10	.37	2	8	0
	2-6	40-60	1.35-1.45	0.06-0.2	0.07-0.14	3.0-6.0	0.3-1.0	.10	.28			
	6-17	40-60	1.15-1.55	0.06-0.2	0.10-0.16	6.0-9.0	0.2-0.8	.20	.24			
	17-30	40-60	1.15-1.55	0.06-0.2	0.10-0.16	6.0-9.0	0.2-0.8	.20	.24			
	30-36	30-35	1.25-1.55	0.2-0.6	0.14-0.21	3.0-6.0	0.2-0.8	.24	.28			
	>36	---	---	0.00- 0.00	---	---	---	---	---			
55:												
Graham----------	0-2	7-27	1.35-1.55	0.06-2	0.07-0.12	0.0-2.9	1.0-3.0	.15	.37	1	7	38
	2-7	27-35	1.25-1.55	0.2-0.6	0.16-0.21	3.0-6.0	1.0-3.0	.24	.32			
	7-14	40-60	1.35-1.55	0.06-0.2	0.12-0.16	6.0-9.0	1.0-2.0	.15	.20			
	>14	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
56:												
Gunsight----------	0-3	7-20	1.35-1.55	2-6	0.13-0.18	0.0-2.9	0.5-1.0	.10	.28	4	6	48
	3-6	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24			
	6-28	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	28-50	5-18	1.55-1.75	2-6	0.07-0.12	0.0-2.9	0.5-1.0	.20	.24			
	50-60	2-10	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17			
57:												
Gunsight----------	0-3	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24	4	6	48
	3-6	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24			
	6-28	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	28-50	5-18	1.55-1.75	2-6	0.07-0.12	0.0-2.9	0.5-1.0	.20	.24			
	50-60	2-10	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17			
58:												
Hassell family------	0-4	7-27	1.35-1.55	0.6-2	0.14-0.18	0.0-2.9	1.0-3.0	.20	.37	3	5	56
	4-13	40-50	1.35-1.55	0.06-0.2	0.12-0.16	3.0-6.0	1.0-3.0	.20	.20			
	13-24	40-50	1.35-1.55	0.06-0.2	0.12-0.16	3.0-6.0	1.0-3.0	.20	.20			
	24-33	28-37	1.25-1.45	0.2-0.6	0.13-0.17	3.0-6.0	1.0-2.0	.15	.32			
	33-47	---	---	0.00-0.06	---	---	---	---	---			
	>47	---	---	0.00- 0.00	---	---	---	---	---			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
58:												
Lampshire----------	0-1	10-20	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	1.0-3.0	.15	.37	1	7	38
	1-6	10-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	1.0-3.0	.10	.24			
	6-9	---	---	0.00-0.06	---	---	---	---	---			
	>9	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
59:												
Holtville----------	0-2	35-55	1.35-1.45	0.06-0.2	0.13-0.17	3.0-6.0	0.5-1.0	.20	.24	4	4	86
	2-23	35-55	1.35-1.55	0.06-0.2	0.14-0.16	6.0-9.0	0.5-1.0	.17	.20			
	23-31	35-55	1.35-1.45	0.06-0.2	0.13-0.17	6.0-9.0	0.5-1.0	.20	.24			
	31-42	5-18	1.25-1.35	2-6	0.13-0.17	0.0-2.9	0.5-1.0	.55	.55			
	42-60	0-10	1.50-1.60	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.17	.17			
60:												
Huevi----------	0-2	7-18	1.35-1.55	2-6	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37	4	6	48
	2-9	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	9-27	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	27-40	5-18	1.45-1.65	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.24			
	40-60	0-15	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.05	.17			
61:												
Huevi----------	0-2	7-18	1.35-1.55	2-6	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37	4	7	38
	2-9	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	9-27	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	27-40	5-18	1.45-1.65	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.24			
	40-60	0-15	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.05	.17			
62:												
Akela----------	0-1	5-18	1.45-1.65	0.6-2	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	1	6	48
	1-12	5-18	1.35-1.50	0.6-2	0.03-0.08	0.0-2.9	0.5-1.0	.10	.24			
	>12	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
63:												
Hyder----------	0-2	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37	1	8	0
	2-7	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37			
	>7	---	---	0.00- 0.00	---	---	---	---	---			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
63:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
Rubble land---------	---	---	---	---	---	---	---	---	---	-	---	---
64:												
Indio----------	0-8	5-27	1.35-1.55	0.6-2	0.15-0.21	0.0-2.9	0.5-1.0	.43	.43	4	5	56
	8-46	5-27	1.35-1.55	0.6-2	0.15-0.21	0.0-2.9	0.5-1.0	.43	.43			
	46-58	35-55	1.15-1.55	0.6-2	0.14-0.16	6.0-9.0	0.5-1.0	.20	.20			
	58-60	0-10	1.55-1.65	20-40	0.05-0.08	0.0-2.9	0.5-1.0	.10	.10			
65:												
Ireteba family------	0-2	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.24	5	5	56
	2-10	5-18	1.45-1.65	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.17	.24			
	10-19	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.24			
	19-31	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.24			
	31-41	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.24			
	41-60	2-10	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.02	.17			
Arizo----------	0-2	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17	5	5	56
	2-11	5-18	1.35-1.55	2-6	0.05-0.11	0.0-2.9	0.5-1.0	.10	.17			
	11-15	5-18	1.35-1.55	2-6	0.06-0.13	0.0-2.9	0.5-1.0	.15	.17			
	15-35	0-15	1.45-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.10			
	35-60	0-15	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.5-1.0	.02	.10			
66:												
Kinley----------	0-2	0-15	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.10	.17	5	3	86
	2-9	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	9-13	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	13-24	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	24-34	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.15	.24			
	34-50	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24			
	50-60	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
67:												
Kinley----------	0-2	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.15	.24	5	5	56
	2-9	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	9-13	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	13-24	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	24-34	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.15	.24			
	34-50	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24			
	50-60	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24			
Poachie----------	0-2	27-35	1.25-1.65	0.6-2	0.12-0.18	3.0-6.0	0.5-1.0	.15	.32	5	5	56
	2-24	5-20	1.45-1.65	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.24	.24			
	24-38	20-27	1.55-1.65	0.6-2	0.12-0.16	0.0-2.9	0.5-1.0	.32	.32			
	38-60	5-18	1.65-1.75	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.20			
68:												
Kofa----------	0-12	40-50	1.35-1.45	0.06-0.2	0.13-0.15	6.0-9.0	0.5-1.0	.32	.32	3	8	0
	12-29	50-55	1.35-1.45	0.06-0.2	0.13-0.15	6.0-9.0	0.5-1.0	.32	.32			
	29-60	5-10	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.10	.10			
69:												
Dudleyville---------	0-2	0-15	1.55-1.65	20-40	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17	5	3	86
	2-12	0-15	1.60-1.65	20-40	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17			
	12-60	0-10	1.55-1.65	20-40	0.03-0.06	0.0-2.9	0.5-1.0	.05	.15			
Vinton----------	0-3	5-20	1.55-1.75	2-6	0.07-0.12	0.0-2.9	0.5-1.0	.20	.20	5	3	86
	3-24	2-10	1.60-1.65	6-20	0.05-0.07	0.0-2.9	0.5-1.0	.15	.15			
	24-30	2-10	1.60-1.65	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.10	.15			
	30-38	2-10	1.60-1.65	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.15	.15			
	38-60	2-10	1.50-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.05	.15			
Riverwash----------	---	---	---	---	---	---	---	---	---	-	8	0
70:												
Dudleyville---------	0-2	0-15	1.55-1.65	20-40	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17	5	3	86
	2-12	0-15	1.60-1.65	20-40	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17			
	12-60	0-10	1.55-1.65	20-40	0.03-0.06	0.0-2.9	0.5-1.0	.05	.15			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
70:												
Vinton----------	0-3	5-20	1.55-1.75	2-6	0.07-0.12	0.0-2.9	0.5-1.0	.20	.20	5	3	86
	3-24	2-10	1.60-1.65	6-20	0.05-0.07	0.0-2.9	0.5-1.0	.15	.15			
	24-30	2-10	1.60-1.65	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.10	.15			
	30-38	2-10	1.60-1.65	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.15	.15			
	38-60	2-10	1.50-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.05	.15			
Riverwash----------	---	---	---	---	---	---	---	---	---	-	8	0
71:												
Lagunita----------	0-2	0-5	1.55-1.65	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.10	.10	5	1	160
	2-60	0-5	1.55-1.65	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.10	.10			
72:												
Lagunita----------	0-2	0-5	1.55-1.65	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.10	.10	5	1	160
	2-60	0-5	1.55-1.65	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.10	.10			
Ripley----------	0-1	5-20	1.35-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.0	.20	.28	5	3	86
	1-30	0-27	1.00-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-1.0	.24	.43			
	30-60	0-15	1.45-1.65	6-20	0.03-0.07	0.0-2.9	0.5-1.0	.10	.20			
73:												
Lampshire----------	0-1	7-17	1.35-1.50	2-6	0.07-0.09	0.0-2.9	1.0-3.0	.15	.20	1	5	56
	1-6	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	1.0-3.0	.10	.24			
	6-17	---	---	0.00-0.06	---	---	---	---	---			
	>17	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
74:												
Lampshire----------	0-1	7-18	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	1.0-3.0	.15	.37	1	7	38
	1-6	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	1.0-3.0	.10	.24			
	6-17	---	---	0.00-0.06	---	---	---	---	---			
	>17	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
75:												
Lampshire----------	0-2	7-18	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	1.0-3.0	.15	.37	1	7	38
	2-7	7-18	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	1.0-3.0	.15	.37			
	>7	---	---	0.00- 0.00	---	---	---	---	---			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
75:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
76:												
Lostman----------	0-2	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	1.0-2.0	.20	.24	5	5	56
	2-36	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	1.0-2.0	.20	.24			
	36-56	2-10	1.55-1.75	6-20	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
	56-60	21-35	1.25-1.40	2-6	0.10-0.13	0.0-2.9	0.0-0.5	.17	.32			
77:												
Lostman----------	0-2	5-18	1.45-1.65	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.17	.24	5	3	86
	2-12	5-18	1.35-1.55	2-6	0.11-0.15	0.0-2.9	0.5-1.0	.20	.28			
	12-27	5-18	1.45-1.65	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.17	.24			
	27-38	7-18	1.35-1.55	2-6	0.14-0.18	0.0-2.9	0.5-1.0	.28	.37			
	38-60	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
78:												
Lostman----------	0-2	5-18	1.45-1.65	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.17	.24	5	3	86
	2-12	5-18	1.35-1.55	2-6	0.11-0.15	0.0-2.9	0.5-1.0	.20	.28			
	12-27	5-18	1.45-1.65	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.17	.24			
	27-38	7-18	1.35-1.55	2-6	0.14-0.18	0.0-2.9	0.5-1.0	.28	.37			
	38-60	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
Kinley----------	0-2	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.15	.24	5	5	56
	2-9	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	9-13	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	13-24	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	24-34	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.15	.24			
	34-50	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24			
	50-60	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24			
79:												
Marshes----------	---	---	---	---	---	---	---	---	---	-	---	---
80:												
Meloland----------	0-8	10-18	1.25-1.35	0.6-2	0.09-0.16	0.0-2.9	0.5-1.0	.24	.24	2	3	86
	8-19	10-18	1.25-1.35	0.6-2	0.09-0.16	0.0-2.9	0.5-1.0	.32	.32			
	19-60	40-55	1.15-1.55	0.06-0.2	0.08-0.15	6.0-9.0	0.5-1.0	.24	.24			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
81:												
Mohon----------	0-2	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17	5	3	86
	2-6	27-35	1.25-1.55	0.2-0.6	0.19-0.21	0.0-2.9	0.5-1.0	.32	.32			
	6-40	40-60	1.35-1.55	0.06-0.2	0.14-0.16	3.0-6.0	0.5-1.0	.20	.20			
	40-60	27-35	1.25-1.55	0.2-0.6	0.12-0.18	0.0-2.9	0.5-1.0	.15	.32			
Kinley----------	0-2	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.15	.24	5	5	56
	2-9	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	9-13	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	13-24	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.20	.24			
	24-34	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.15	.24			
	34-50	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24			
	50-60	5-18	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.5-1.0	.10	.24			
82:												
Mohon----------	0-2	20-25	1.15-1.25	2-6	0.05-0.08	0.0-2.9	0.5-1.0	.17	.64	5	8	0
	2-6	27-35	1.25-1.55	0.2-0.6	0.19-0.21	0.0-2.9	0.5-1.0	.32	.32			
	6-40	40-60	1.35-1.55	0.06-0.2	0.14-0.16	3.0-6.0	0.5-1.0	.20	.20			
	40-60	27-35	1.25-1.55	0.2-0.6	0.12-0.18	0.0-2.9	0.5-1.0	.15	.32			
Poachie----------	0-2	7-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24	5	5	56
	2-24	5-20	1.45-1.65	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.24	.24			
	24-38	20-27	1.55-1.65	0.6-2	0.12-0.16	0.0-2.9	0.5-1.0	.32	.32			
	38-60	5-18	1.65-1.75	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.20			
83:												
Mohon----------	0-2	5-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.28	5	6	48
	2-6	27-35	1.25-1.55	0.2-0.6	0.19-0.21	0.0-2.9	0.5-1.0	.32	.32			
	6-40	40-60	1.35-1.55	0.06-0.2	0.14-0.16	3.0-6.0	0.5-1.0	.20	.20			
	40-60	27-35	1.25-1.55	0.2-0.6	0.12-0.18	0.0-2.9	0.5-1.0	.15	.32			
Poachie----------	0-2	7-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24	5	5	56
	2-24	5-20	1.45-1.65	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.24	.24			
	24-38	20-27	1.55-1.65	0.6-2	0.12-0.16	0.0-2.9	0.5-1.0	.32	.32			
	38-60	5-18	1.65-1.75	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.20			
84:												
Nickel family-------	0-3	2-10	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.02	.17	5	5	56
	3-7	20-27	1.55-1.65	0.2-0.6	0.07-0.14	0.0-2.9	0.5-1.0	.05	.32			
	7-26	7-18	1.35-1.55	0.2-0.6	0.05-0.12	0.0-2.9	0.5-1.0	.05	.37			
	26-60	5-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.05	.24			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
84:												
Topawa family-------	0-3	2-15	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.05	.17	5	5	56
	3-18	27-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-6.0	0.5-1.0	.10	.32			
	18-50	15-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	50-58	2-15	1.55-1.65	0.2-0.6	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17			
	58-60	18-27	1.35-1.55	0.6-2	0.10-0.15	0.0-2.9	0.5-1.0	.20	.37			
Eba family----------	0-1	5-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	5	6	48
	1-8	40-60	1.35-1.55	0.06-0.2	0.05-0.10	3.0-6.0	0.5-1.0	.05	.20			
	8-32	40-60	1.35-1.55	0.06-0.2	0.05-0.10	3.0-6.0	0.5-1.0	.05	.20			
	32-52	35-55	1.45-1.60	0.06-0.2	0.02-0.05	3.0-6.0	0.5-1.0	.10	.32			
	52-60	18-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.15	.37			
85:												
Orwash family-------	0-2	5-20	1.45-1.65	6-20	0.09-0.11	0.0-2.9	0.5-1.0	.17	.24	2	3	86
	2-14	5-20	1.55-1.75	6-20	0.09-0.13	0.0-2.9	0.5-1.0	.15	.20			
	14-26	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17			
	26-47	0-10	1.55-1.65	20-40	0.03-0.06	0.0-2.9	0.5-1.0	.05	.10			
	47-60	20-35	1.55-1.65	6-20	0.09-0.14	0.0-2.9	0.5-1.0	.15	.32			
86:												
Orwash family-------	0-2	5-20	1.45-1.65	6-20	0.09-0.11	0.0-2.9	0.5-1.0	.17	.24	2	3	86
	2-14	5-20	1.55-1.75	6-20	0.09-0.13	0.0-2.9	0.5-1.0	.15	.20			
	14-26	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.10	.17			
	26-47	0-10	1.55-1.65	20-40	0.03-0.06	0.0-2.9	0.5-1.0	.05	.10			
	47-60	20-35	1.55-1.65	6-20	0.09-0.14	0.0-2.9	0.5-1.0	.15	.32			
87:												
Penthouse----------	0-2	7-18	1.35-1.55	0.06-2	0.05-0.12	0.0-2.9	1.0-3.0	.15	.37	4	6	48
	2-8	27-35	1.25-1.55	0.2-0.6	0.12-0.18	3.0-6.0	1.0-3.0	.15	.32			
	8-27	40-50	1.35-1.55	0.06-0.2	0.09-0.14	3.0-6.0	1.0-2.0	.15	.20			
	27-40	30-35	1.25-1.55	0.2-0.6	0.12-0.18	3.0-6.0	1.0-2.0	.15	.32			
	40-47	15-20	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			
	47-60	0-15	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.05	.17			
Gonzales----------	0-1	20-27	1.20-1.30	0.2-0.6	0.08-0.11	3.0-6.0	1.0-3.0	.17	.64	1	8	0
	1-14	40-55	1.30-1.40	0.06-0.2	0.14-0.17	6.0-9.0	1.0-3.0	.28	.32			
	14-17	---	---	0.00-0.06	---	---	---	---	---			
	>17	---	---	0.00- 0.00	---	---	---	---	---			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
88:												
Poachie----------	0-2	7-27	1.35-1.55	0.6-2	0.04-0.08	0.0-2.9	0.5-1.0	.15	.37	5	6	48
	2-24	5-20	1.45-1.65	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.24	.24			
	24-38	20-27	1.55-1.65	0.6-2	0.12-0.16	0.0-2.9	0.5-1.0	.32	.32			
	38-60	5-18	1.65-1.75	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.20			
89:												
Poachie----------	0-2	7-27	1.35-1.55	0.6-2	0.04-0.08	0.0-2.9	0.5-1.0	.15	.37	5	6	48
	2-24	5-20	1.45-1.65	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.24	.24			
	24-38	20-27	1.55-1.65	0.6-2	0.12-0.16	0.0-2.9	0.5-1.0	.32	.32			
	38-60	5-18	1.65-1.75	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.20			
90:												
Quilotosa----------	0-3	5-18	1.45-1.65	2-6	0.05-0.07	0.0-2.9	0.5-1.0	.05	.24	1	8	0
	3-9	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	9-15	---	---	0.00-0.06	---	---	---	---	---			
	>15	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
91:												
Razorback----------	0-2	5-18	1.45-1.65	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.24	1	8	0
	2-5	5-18	1.45-1.65	0.6-2	0.04-0.08	0.0-2.9	1.0-3.0	.10	.24			
	>5	---	---	0.00- 0.00	---	---	---	---	---			
92:												
Razorback----------	0-2	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.15	.37	1	8	0
	2-15	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37			
	>15	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
93:												
Razorback----------	0-2	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.15	.37	1	7	38
	2-15	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37			
	>15	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
94:												
Razorback----------	0-2	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.15	.37	1	8	0
	2-15	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37			
	>15	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
95:												
Razorback----------	0-2	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.15	.37	1	8	0
	2-15	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37			
	>15	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
Rubble land---------	---	---	---	---	---	---	---	---	---	-	---	---
96:												
Razorback----------	0-2	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.15	.37	1	8	0
	2-15	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37			
	>15	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
Rubble land---------	---	---	---	---	---	---	---	---	---	-	---	---
97:												
Rillino----------	0-2	2-10	1.55-1.65	6-20	0.06-0.09	0.0-2.9	1.0-2.0	.10	.17	3	3	86
	2-16	20-27	1.55-1.65	0.6-2	0.09-0.14	0.0-2.9	0.5-1.0	.15	.32			
	16-27	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			
	27-60	2-10	1.55-1.65	6-20	0.06-0.09	0.0-2.9	0.5-1.0	.17	.17			
98:												
Rillino----------	0-2	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	1.0-2.0	.15	.24	3	5	56
	2-16	20-27	1.55-1.65	0.6-2	0.09-0.14	0.0-2.9	0.5-1.0	.15	.32			
	16-27	5-18	1.45-1.65	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			
	27-60	2-10	1.55-1.65	6-20	0.06-0.09	0.0-2.9	0.5-1.0	.17	.17			
Tres Hermanos-------	0-2	27-35	1.25-1.55	0.2-0.6	0.12-0.18	3.0-6.0	0.5-1.0	.15	.32	5	5	56
	2-26	20-35	1.55-1.65	0.2-0.6	0.09-0.14	3.0-6.0	0.5-1.0	.15	.32			
	26-60	5-20	1.45-1.63	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
99:												
Ripley----------	0-2	0-27	1.15-1.25	0.6-2	0.19-0.21	0.0-2.9	0.5-1.0	.37	.43	5	5	56
	2-26	0-27	1.15-1.25	0.6-2	0.19-0.21	0.0-2.9	0.5-1.0	.24	.43			
	26-60	0-10	1.50-1.60	6-20	0.05-0.07	0.0-2.9	0.5-1.0	.10	.20			
100:												
Riverbend family----	0-2	7-18	1.45-1.65	6-20	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	2	6	48
	2-11	7-18	1.45-1.65	6-20	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	11-60	0-15	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.05	.17			
101:												
Riverbend----------	0-2	7-15	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.17	.64	5	6	48
	2-7	10-18	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.10	.28			
	7-60	5-12	1.55-1.65	6-20	0.03-0.05	0.0-2.9	0.5-1.0	.05	.17			
102:												
Riverwash----------	---	---	---	---	---	---	---	---	---	-	8	0
Fluvaquents---------	---	---	---	---	---	---	---	---	---	5	8	0
103:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
Hyder----------	0-2	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37	1	8	0
	2-7	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37			
	>7	---	---	0.00- 0.00	---	---	---	---	---			
104:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
Razorback----------	0-2	5-18	1.45-1.65	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.24	1	6	48
	2-15	7-18	1.35-1.55	0.6-2	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37			
	>15	---	---	0.00- 0.00	---	---	---	---	---			
105:												
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
Sunrock----------	0-2	5-20	1.25-1.35	2-6	0.04-0.05	0.0-2.9	0.0-1.0	.05	.24	1	8	0
	2-5	5-20	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.0-1.0	.10	.24			
	5-6	---	---	0.00-0.06	---	---	---	---	---			
	>6	---	---	0.00- 0.00	---	---	---	---	---			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
106:												
Romero----------	0-1	5-20	1.45-1.65	2-6	0.03-0.05	0.0-2.9	1.0-2.0	.05	.24	1	8	0
	1-6	20-35	1.55-1.65	2-6	0.05-0.10	3.0-6.0	1.0-2.0	.10	.32			
	6-60	---	---	0.00-0.06	---	---	---	---	---			
Chiricahua----------	0-1	5-20	1.35-1.55	2-6	0.02-0.08	0.0-2.9	1.0-3.0	.02	.10	1	6	48
	1-6	40-60	1.55-1.65	0.06-0.2	0.09-0.16	6.0-9.0	0.5-1.0	.10	.10			
	6-14	40-60	1.55-1.65	0.06-0.2	0.09-0.16	6.0-9.0	0.5-1.0	.10	.10			
	14-16	40-60	1.55-1.65	0.06-0.2	0.07-0.14	6.0-9.0	0.5-1.0	.05	.10			
	16-22	---	---	0.00-0.06	---	---	---	---	---			
	>22	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
107:												
Romero----------	0-1	5-20	1.45-1.65	2-6	0.03-0.05	0.0-2.9	1.0-2.0	.05	.24	1	8	0
	1-6	20-35	1.55-1.65	2-6	0.05-0.10	3.0-6.0	1.0-2.0	.10	.32			
	6-60	---	---	0.00-0.06	---	---	---	---	---			
Lampshire----------	0-1	7-17	1.35-1.50	2-6	0.07-0.09	0.0-2.9	1.0-3.0	.15	.20	1	5	56
	1-6	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	1.0-3.0	.10	.24			
	6-17	---	---	0.00-0.06	---	---	---	---	---			
	>17	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
108:												
Rositas family------	0-17	0-5	1.55-1.65	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.17	.20	5	1	220
	17-60	0-6	1.55-1.65	6-20	0.05-0.08	0.0-2.9	0.0-0.5	.17	.20			
Superstition--------	0-1	0-10	1.50-1.60	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.10	.17	5	1	220
	1-7	0-10	1.50-1.60	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.17	.17			
	7-60	0-10	1.50-1.60	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.17	.17			
Torriorthents-------	---	---	---	---	---	---	---	---	---	2	---	---
109:												
Rositas----------	0-1	0-10	1.55-1.65	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.10	.10	5	1	220
	1-60	0-10	1.55-1.65	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.10	.10			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
109:												
Superstition family-	0-2	0-10	1.50-1.60	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.15	.17	5	1	220
	2-35	0-10	1.50-1.60	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.15	.17			
	35-60	0-10	1.50-1.60	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.15	.17			
Torriorthents-------	---	---	---	---	---	---	---	---	---	2	---	---
110:												
Stagecoach----------	0-2	7-18	1.35-1.55	2-6	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37	5	6	48
	2-19	7-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.20	.37			
	19-60	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
111:												
Stagecoach----------	0-2	7-18	1.35-1.55	2-6	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37	5	6	48
	2-19	7-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.20	.37			
	19-60	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
112:												
Stagecoach----------	0-2	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	5	6	48
	2-19	7-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.20	.37			
	19-60	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
113:												
Stagecoach----------	0-2	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	5	6	48
	2-19	7-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.20	.37			
	19-60	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
114:												
Stagecoach----------	0-2	2-10	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.05	.17	5	5	56
	2-19	7-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.20	.37			
	19-60	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
Topawa family-------	0-2	7-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	1.0-2.0	.10	.24	5	6	48
	2-23	20-35	1.55-1.65	0.2-0.6	0.03-0.06	3.0-6.0	0.5-1.0	.10	.24			
	23-58	7-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.32			
	58-60	20-35	1.55-1.65	0.2-0.6	0.03-0.06	3.0-6.0	0.5-1.0	.10	.24			
Eba----------	0-1	5-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	5	6	48
	1-28	35-55	1.45-1.60	0.06-0.2	0.02-0.05	3.0-6.0	0.5-1.0	.10	.32			
	28-38	20-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-6.0	0.5-1.0	.10	.32			
	38-60	5-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
115:												
Stagecoach----------	0-2	2-10	1.55-1.65	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.05	.17	5	5	56
	2-19	7-18	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.20	.37			
	19-60	5-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
Topawa family-------	0-2	7-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	1.0-2.0	.10	.24	5	6	48
	2-23	20-35	1.55-1.65	0.2-0.6	0.03-0.06	3.0-6.0	0.5-1.0	.10	.24			
	23-58	7-18	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.32			
	58-60	20-35	1.55-1.65	0.2-0.6	0.03-0.06	3.0-6.0	0.5-1.0	.10	.24			
Eba----------	0-1	5-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24	5	6	48
	1-28	35-55	1.45-1.60	0.06-0.2	0.02-0.05	3.0-6.0	0.5-1.0	.10	.32			
	28-38	20-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-6.0	0.5-1.0	.10	.32			
	38-60	5-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
116:												
Sunrock----------	0-2	5-20	1.25-1.35	2-6	0.03-0.05	0.0-2.9	0.0-1.0	.05	.24	1	8	0
	2-5	5-20	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.0-1.0	.10	.24			
	>5	---	---	0.00- 0.00	---	---	---	---	---			
117:												
Sunrock----------	0-2	5-20	1.25-1.35	2-6	0.03-0.05	0.0-2.9	0.0-1.0	.05	.24	1	8	0
	2-5	5-20	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.0-1.0	.10	.24			
	5-6	---	---	0.00-0.06	---	---	---	---	---			
	>6	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
118:												
Tombstone----------	0-1	7-18	1.35-1.55	2-6	0.04-0.07	0.0-2.9	1.0-3.0	.05	.37	5	8	0
	1-4	7-18	1.35-1.55	2-6	0.04-0.07	0.0-2.9	1.0-2.0	.15	.37			
	4-60	7-18	1.35-1.55	2-6	0.04-0.07	0.0-2.9	1.0-2.0	.15	.37			
Caralampi----------	0-3	2-5	1.45-1.65	6-20	0.02-0.04	0.0-2.9	0.5-1.0	.05	.17	5	5	56
	3-18	20-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-6.0	0.5-1.0	.10	.32			
	18-50	12-27	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.0-1.0	.10	.24			
	50-58	0-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.24			
	58-60	5-18	1.25-1.50	0.6-2	0.10-0.15	0.0-2.9	0.5-1.0	.17	.32			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
118:												
Eloma----------	0-1	5-20	1.45-1.65	2-6	0.04-0.08	0.0-2.9	1.0-3.0	.17	.24	5	6	48
	1-3	20-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-6.0	1.0-3.0	.15	.32			
	3-40	35-55	1.35-1.55	0.06-0.2	0.05-0.10	6.0-9.0	1.0-3.0	.10	.20			
	40-60	35-55	1.35-1.55	0.06-0.2	0.02-0.03	3.0-6.0	1.0-3.0	.10	.32			
119:												
Torriorthents-------	---	---	---	---	---	---	---	---	---	2	---	---
120:												
Torriorthents-------	---	---	---	---	---	---	---	---	---	2	---	---
121:												
Tumarion----------	0-3	15-25	1.15-1.25	2-6	0.05-0.08	0.0-2.9	0.5-1.0	.17	.64	1	6	48
	3-10	15-25	1.15-1.25	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.32			
	10-12	---	---	0.00-0.06	---	---	---	---	---			
	>12	---	---	0.00- 0.01	---	---	---	---	---			
122:												
Tumarion----------	0-3	20-25	1.15-1.25	2-6	0.05-0.08	0.0-2.9	0.5-1.0	.17	.64	1	6	48
	3-10	15-25	1.15-1.25	2-6	0.03-0.05	0.0-2.9	0.5-1.0	.05	.32			
	10-12	---	---	0.00- 0.00	---	---	---	---	---			
	>12	---	---	0.00- 0.00	---	---	---	---	---			
123:												
Tyro----------	0-1	7-18	1.35-1.55	2-6	0.04-0.07	0.0-2.9	0.5-1.0	.10	.24	1	8	0
	1-6	5-20	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	6-9	5-20	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	>9	---	---	0.00- 0.00	---	---	---	---	---			
124:												
Tyro----------	0-1	7-18	1.35-1.55	2-6	0.04-0.07	0.0-2.9	0.5-1.0	.10	.24	1	6	48
	1-6	5-20	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	6-9	5-20	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.5-1.0	.10	.24			
	>9	---	---	0.00- 0.00	---	---	---	---	---			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
125:												
Vekol family--------	0-4	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.05	.10	5	3	86
	4-10	5-20	1.45-1.65	6-20	0.07-0.11	0.0-2.9	0.5-1.0	.10	.15			
	10-26	35-55	1.55-1.65	0.06-0.2	0.10-0.14	3.0-6.0	0.5-1.0	.10	.15			
	26-40	20-35	1.55-1.65	0.2-0.6	0.09-0.14	3.0-6.0	0.5-1.0	.10	.15			
	40-60	0-10	1.55-1.65	20-40	0.03-0.05	0.0-2.9	0.5-1.0	.02	.05			
126:												
Vekol family--------	0-4	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.05	.10	3	3	86
	4-10	5-20	1.45-1.65	6-20	0.07-0.11	0.0-2.9	0.5-1.0	.10	.15			
	10-26	35-55	1.55-1.65	0.06-0.2	0.10-0.14	3.0-6.0	0.5-1.0	.10	.15			
	26-40	20-35	1.55-1.65	0.2-0.6	0.09-0.14	3.0-6.0	0.5-1.0	.10	.15			
	40-60	0-10	1.55-1.65	20-40	0.03-0.05	0.0-2.9	0.5-1.0	.02	.05			
127:												
Water----------	---	---	---	---	---	---	---	---	---	-	---	---
128:												
Whitehills----------	0-2	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37	2	7	38
	2-7	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37			
	7-19	27-35	1.25-1.55	0.2-0.6	0.07-0.14	3.0-6.0	0.5-1.0	.15	.32			
	19-27	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.15	.37			
	>27	---	---	0.00-0.06	---	---	---	---	---			
129:												
Whitehills----------	0-2	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37	2	6	48
	2-7	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.20	.37			
	7-19	27-35	1.25-1.55	0.2-0.6	0.07-0.14	3.0-6.0	0.5-1.0	.15	.32			
	19-27	7-27	1.35-1.55	0.6-2	0.05-0.12	0.0-2.9	0.5-1.0	.15	.37			
	>27	---	---	0.00- 0.00	---	---	---	---	---			
130:												
White House family--	0-1	0-15	1.55-1.65	6-20	0.02-0.05	0.0-2.9	1.0-2.0	.05	.17	4	5	56
	1-15	20-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-6.0	1.0-2.0	.10	.32			
	15-21	35-60	1.15-1.30	0.00-0.06	0.10-0.12	9.0-10.9	1.0-2.0	.28	.32			
	21-32	35-60	1.35-1.55	0.06-0.2	0.12-0.14	9.0-10.9	1.0-2.0	.15	.20			
	32-43	20-35	1.55-1.65	0.2-0.6	0.05-0.10	3.0-6.0	1.0-2.0	.15	.32			
	43-60	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	1.0-2.0	.05	.17			

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
131:												
White House---------	0-1	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	1.0-3.0	.10	.17	4	3	86
	1-5	20-35	1.55-1.65	0.2-0.6	0.15-0.17	3.0-6.0	1.0-3.0	.28	.32			
	5-23	35-60	1.55-1.65	0.06-0.2	0.13-0.17	6.0-9.0	1.0-3.0	.24	.32			
	23-42	20-35	1.55-1.65	0.2-0.6	0.09-0.14	3.0-6.0	1.0-3.0	.15	.32			
	42-60	0-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	1.0-3.0	.10	.17			
132:												
Wikieup----------	0-1	5-18	1.65-1.75	2-6	0.03-0.05	0.0-2.9	0.0-1.0	.05	.24	1	8	0
	1-5	5-18	1.65-1.75	2-6	0.07-0.11	0.0-2.9	0.0-1.0	.15	.24			
	5-8	---	---	0.00-0.06	---	---	---	---	---			
	>8	---	---	0.00- 0.00	---	---	---	---	---			
Mutang----------	0-3	5-18	1.45-1.65	2-6	0.03-0.05	0.0-2.9	1.0-2.0	.05	.24	2	8	0
	3-5	30-35	1.25-1.55	0.2-0.6	0.07-0.14	3.0-6.0	1.0-2.0	.10	.32			
	5-15	40-60	1.35-1.55	0.06-0.2	0.10-0.14	3.0-6.0	1.0-2.0	.10	.20			
	15-22	---	---	0.00-0.06	---	---	---	---	---			
	>22	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
133:												
Mutang----------	0-1	10-18	1.35-1.50	2-6	0.07-0.13	0.0-2.9	0.5-1.0	.20	.24	2	5	56
	1-5	10-25	1.25-1.40	0.6-2	0.13-0.18	0.0-2.9	0.5-1.0	.32	.32			
	5-15	40-55	1.15-1.30	0.00-0.06	0.14-0.16	6.0-9.0	0.5-1.0	.32	.32			
	15-22	---	---	0.00-0.06	---	---	---	---	---			
	>22	---	---	0.00-0.03	---	---	---	---	---			
Wikieup----------	0-1	5-18	1.65-1.75	2-6	0.03-0.05	0.0-2.9	0.0-1.0	.05	.24	1	8	0
	1-5	5-18	1.65-1.75	2-6	0.07-0.11	0.0-2.9	0.0-1.0	.15	.24			
	5-8	---	---	0.00-0.06	---	---	---	---	---			
	>8	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
134:												
Wikieup----------	0-1	5-18	1.35-1.50	2-6	0.04-0.08	0.0-2.9	0.0-1.0	.10	.24	1	6	48
	1-5	5-18	1.65-1.75	2-6	0.07-0.11	0.0-2.9	0.0-1.0	.15	.24			
	5-8	---	---	0.00-0.06	---	---	---	---	---			
	>8	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
135:												
Yahana family-------	0-4	27-40	1.15-1.30	0.06-0.2	0.05-0.06	3.0-6.0	1.0-2.0	.37	.37	5	4	86
	4-8	10-50	1.15-1.40	0.06-0.2	0.04-0.05	6.0-9.0	0.5-1.0	.32	.32			
	8-29	18-27	1.00-1.55	0.6-2	0.19-0.21	3.0-6.0	0.5-1.0	.43	.43			
	29-41	10-50	1.15-1.40	0.06-0.2	0.04-0.05	6.0-9.0	0.5-1.0	.32	.32			
	41-56	27-40	1.15-1.30	0.06-0.2	0.05-0.06	3.0-6.0	0.5-1.0	.37	.37			
	56-60	3-5	1.45-1.60	6-20	0.02-0.03	0.0-2.9	0.0-0.5	.15	.15			
136:												
Tumarion----------	0-2	10-18	1.35-1.50	2-6	0.04-0.06	0.0-2.9	0.5-1.0	.05	.24	1	8	0
	2-15	15-25	1.35-1.50	2-6	0.07-0.12	0.0-2.9	0.5-1.0	.10	.24			
	15-19	---	---	0.00-0.06	---	---	---	---	---			
	>19	---	---	0.00- 0.00	---	---	---	---	---			
Nickel family-------	0-4	10-27	1.25-1.40	0.6-2	0.01-0.06	0.0-2.9	0.0-0.5	.02	.32	4	8	0
	4-23	18-25	1.15-1.40	0.6-2	0.08-0.12	0.0-2.9	0.0-1.0	.05	.55			
	23-51	12-27	1.25-1.40	2-6	0.07-0.09	0.0-2.9	0.0-1.0	.15	.32			
	51-60	8-15	1.35-1.50	2-6	0.07-0.12	0.0-2.9	0.0-1.0	.10	.24			
137:												
Valena----------	0-2	5-18	1.25-1.35	2-6	0.09-0.13	0.0-2.9	1.0-2.0	.24	.24	1	3	86
	2-7	15-18	1.35-1.50	2-6	0.09-0.13	0.0-2.9	1.0-2.0	.24	.24			
	7-12	20-35	1.25-1.50	0.6-2	0.16-0.21	0.0-2.9	0.0-1.0	.32	.32			
	>12	---	---	0.00- 0.00	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0
Carri family--------	0-2	7-18	1.10-1.20	2-6	0.11-0.13	0.0-2.9	1.0-2.0	.24	.24	5	3	86
	2-34	20-35	1.05-1.15	0.2-0.6	0.14-0.16	3.0-6.0	1.0-2.0	.32	.32			
	34-44	10-18	1.35-1.50	2-6	0.08-0.11	0.0-2.9	0.5-1.0	.20	.32			
	44-60	18-27	1.25-1.40	2-6	0.13-0.18	0.0-2.9	0.5-1.0	.32	.32			
138:												
Nodman----------	0-2	5-18	1.35-1.50	2-6	0.05-0.07	0.0-2.9	0.5-1.0	.10	.24	1	5	56
	2-10	20-35	1.25-1.40	0.2-0.6	0.05-0.08	3.0-6.0	0.0-0.5	.10	.32			
	10-17	---	---	0.00-0.06	---	---	---	---	---			
	17-60	---	---	0.00-0.06	---	---	---	---	---			
Rock outcrop--------	---	---	---	---	---	---	---	---	---	-	8	0

Table 15.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
139:												
Nodman----------	0-1	5-18	1.35-1.50	2-6	0.08-0.11	0.0-2.9	0.5-1.0	.15	.24	1	5	56
	1-6	5-18	1.35-1.50	2-6	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
	6-12	20-35	1.25-1.40	0.2-0.6	0.06-0.08	3.0-6.0	0.0-0.5	.10	.32			
	12-60	---	---	0.00-0.06	---	---	---	---	---			
Romero family-------	0-2	8-18	1.35-1.50	2-6	0.05-0.07	0.0-2.9	0.5-1.0	.05	.24	1	6	48
	2-7	8-18	1.35-1.50	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.05	.24			
	7-21	---	---	0.00-0.06	---	---	---	---	---			
	>21	---	---	0.00- 0.00	---	---	---	---	---			

Table 16.--Chemical Soil Properties

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
1:								
Akela----------	0-1	5.0-15	---	7.4-8.4	1-15	0	0.0-2.0	0
	1-5	5.0-15	---	7.4-8.4	1-15	0	0.0-2.0	0
	>5	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
Rubble land----------	---	---	---	---	---	---	---	---
2:								
Akela----------	0-1	5.0-15	---	7.4-8.4	1-15	0	0.0-2.0	0
	1-5	5.0-15	---	7.4-8.4	1-15	0	0.0-2.0	0
	>5	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
Rubble land----------	---	---	---	---	---	---	---	---
3:								
Alko family----------	0-1	5.0-15	---	7.4-8.4	5-30	0	0.0-2.0	0
	1-15	5.0-15	---	7.4-8.4	25-35	0	0.0-2.0	0
	15-31	---	---	---	---	---	---	---
	31-60	0.0-10	---	7.4-8.4	25-35	0	0.0-2.0	0
4:								
Alko family----------	0-1	5.0-15	---	7.4-8.4	10-30	0	0.0-2.0	0
	1-15	5.0-15	---	7.4-8.4	10-30	0	0.0-2.0	0
	15-31	---	---	---	---	---	---	---
	31-60	0.0-10	---	7.4-8.4	15-35	0	0.0-2.0	0
5:								
Amole----------	0-1	5.0-15	---	6.6-8.4	0	0	0.0-2.0	0
	1-19	5.0-15	---	7.4-8.4	0	0	0.0-2.0	0
	19-60	0.0-10	---	7.4-8.4	2-10	0	0.0-2.0	0
6:								
Amole----------	0-1	5.0-15	---	6.6-8.4	0	0	0.0-2.0	0
	1-19	5.0-15	---	7.4-8.4	0	0	0.0-2.0	0
	19-60	0.0-10	---	7.4-8.4	2-10	0	0.0-2.0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
7:								
Anthony----------	0-1	5.0-15	---	6.6-8.4	0-10	0	0.0-2.0	0
	1-35	5.0-15	---	6.6-8.4	1-10	0	0.0-2.0	0
	35-60	5.0-15	---	7.4-8.4	1-10	0	0.0-2.0	0
Dudleyville----------	0-2	0.0-15	---	7.4-8.4	0-10	0	0	0
	2-12	0.0-15	---	7.4-8.4	0-10	0	0	0
	12-60	0.0-10	---	7.4-8.4	0-10	0	0	0
8:								
Aquarius----------	0-2	10-25	---	7.4-8.4	0-5	0	0.0-2.0	0
	2-8	15-30	---	7.4-8.4	0-5	0	0.0-2.0	0
	8-24	20-40	---	7.9-8.4	1-15	0	0.0-2.0	0
	24-42	20-30	---	7.9-8.4	1-15	0	0.0-2.0	0
	42-50	20-30	---	7.9-8.4	1-15	0	0.0-2.0	0
	50-60	10-25	---	7.9-8.4	1-15	0	0.0-2.0	0
Akela----------	0-1	5.0-15	---	7.4-8.4	1-15	0	0.0-2.0	0
	1-5	5.0-15	---	7.4-8.4	1-15	0	0.0-2.0	0
	>5	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
9:								
Arizo----------	0-2	5.0-15	---	7.4-8.4	0-5	0	0.0-2.0	0
	2-11	5.0-15	---	7.4-8.4	0-5	0	0.0-2.0	0
	11-15	5.0-15	---	7.4-8.4	1-10	0	0.0-2.0	0
	15-35	0.0-10	---	7.4-8.4	1-10	0	0.0-2.0	0
	35-60	0.0-10	---	7.4-8.4	1-10	0	0.0-2.0	0
Franconia----------	0-2	2.0-10	---	7.4-8.4	0-5	0	0	0
	2-33	5.0-10	---	7.4-8.4	5-10	0	0	0
	33-60	5.0-10	---	7.4-8.4	5-10	0	0	0
Riverwash----------	---	---	---	---	---	---	---	---
10:								
Arizo----------	0-2	5.0-15	---	7.4-8.4	0-5	0	0.0-2.0	0
	2-11	5.0-15	---	7.4-8.4	0-5	0	0.0-2.0	0
	11-15	5.0-15	---	7.4-8.4	1-10	0	0.0-2.0	0
	15-35	0.0-10	---	7.4-8.4	1-10	0	0.0-2.0	0
	35-60	0.0-10	---	7.4-8.4	1-10	0	0.0-2.0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
10:								
Franconia----------	0-2	2.0-10	---	7.4-8.4	0-5	0	0	0
	2-18	5.0-10	---	7.4-8.4	5-10	0	0	0
	18-33	5.0-10	---	7.4-8.4	5-10	0	0	0
	33-60	5.0-10	---	7.4-8.4	5-10	0	0	0
Riverwash----------	---	---	---	---	---	---	---	---
11:								
Bartmus----------	0-2	5.0-20	---	7.4-8.4	1-5	0	0	0
	2-6	10-25	---	7.4-8.4	1-5	0	0	0
	6-19	---	---	---	---	---	---	---
	>19	---	---	---	---	---	---	---
12:								
Bonita family--------	0-2	15-30	---	7.4-8.4	0-5	0	0.0-2.0	0
	2-35	20-40	---	7.4-8.4	0-5	0	0.0-2.0	0
	35-60	10-20	---	7.4-8.4	15-30	0	0.0-2.0	0
13:								
Bonita family--------	0-2	15-30	---	7.4-8.4	0-5	0	0.0-2.0	0
	2-35	20-40	---	7.4-8.4	0-5	0	0.0-2.0	0
	35-60	10-20	---	7.4-8.4	15-30	0	0.0-2.0	0
Gonzales----------	0-1	5.0-25	---	6.6-7.3	0	0	0.0-2.0	0
	1-14	20-40	---	6.1-7.3	0	0	0.0-2.0	0
	14-17	---	---	---	---	---	---	---
	>17	---	---	---	---	---	---	---
14:								
Brazito family-------	0-7	0.0-10	---	7.4-8.4	1-10	0	0.0-2.0	0
	7-14	0.0-10	---	7.4-8.4	1-10	0	0.0-2.0	0
	14-28	0.0-10	---	7.4-8.4	1-10	0	0.0-2.0	0
	28-60	0.0-10	---	7.4-8.4	1-10	0	0.0-2.0	0
15:								
Bucklebar----------	0-4	5.0-15	---	7.4-7.8	0	0	0.0-2.0	0
	4-37	10-20	---	7.4-7.8	0-5	0	0.0-2.0	0
	37-60	5.0-15	---	7.4-8.4	1-10	0	0.0-2.0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
16:								
Cacique family-------	0-1	5.0-20	---	7.4-8.4	0	0	0.0-2.0	0
	1-8	10-25	---	7.4-8.4	0-5	0	0.0-2.0	0
	8-35	10-25	---	7.4-8.4	5-15	0	0.0-2.0	0
	35-60	---	---	---	---	---	---	---
17:								
Castaneda----------	0-1	2.0-10	---	7.4-8.4	0-10	0	0	0
	1-9	10-20	---	7.4-8.4	0-10	0	0	0
	9-17	10-20	---	7.4-8.4	5-15	0	0	0
	17-32	2.0-10	---	7.4-8.4	15-35	0	0	0
	32-41	---	---	---	---	---	---	---
	41-60	0.0-10	---	7.4-8.4	5-15	0	0	0
18:								
Castaneda----------	0-1	2.0-10	---	7.4-8.4	0-10	0	0	0
	1-9	10-20	---	7.4-8.4	0-10	0	0	0
	9-17	10-20	---	7.4-8.4	5-15	0	0	0
	17-32	2.0-10	---	7.4-8.4	15-35	0	0	0
	32-41	---	---	---	---	---	---	---
	41-60	0.0-10	---	7.4-8.4	5-15	0	0	0
19:								
Carrizo family-------	0-1	0.0-10	---	7.4-8.4	0-10	0	0.0-2.0	0
	1-9	0.0-10	---	7.4-8.4	0-10	0	0.0-2.0	0
	9-60	0.0-10	---	7.4-8.4	0-10	0	0.0-2.0	0
20:								
Carrizo family-------	0-1	0.0-10	---	7.4-8.4	0-10	0	0.0-2.0	0
	1-9	0.0-10	---	7.4-8.4	0-10	0	0.0-2.0	0
	9-60	0.0-10	---	7.4-8.4	0-10	0	0.0-2.0	0
Riverwash----------	---	---	---	---	---	---	---	---
21:								
Carrizo----------	0-1	0.0-10	---	7.4-8.4	2-10	0	0.0-2.0	0
	1-23	0.0-10	---	7.4-8.4	2-10	0	0.0-2.0	0
	23-60	0.0-5.0	---	7.4-8.4	2-10	0	0.0-2.0	0
Riverwash----------	---	---	---	---	---	---	---	---

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
22:								
Carrizo----------	0-1	0.0-10	---	7.4-8.4	0-10	0	0.0-2.0	0
	1-60	0.0-10	---	7.4-8.4	0-10	0	0.0-2.0	0
Riverwash----------	---	---	---	---	---	---	---	---
23:								
Cave----------	0-1	5.0-15	---	7.9-8.4	5-15	0	0.0-2.0	0
	1-7	5.0-15	---	7.9-8.4	5-15	0	0.0-2.0	0
	7-28	---	---	---	---	---	---	---
	28-60	0.0-10	---	7.9-8.4	5-20	0	0.0-2.0	0
24:								
Cave----------	0-1	5.0-15	---	7.9-8.4	5-15	0	0.0-2.0	0
	1-7	5.0-15	---	7.9-8.4	5-15	0	0.0-2.0	0
	7-28	---	---	---	---	---	---	---
	28-60	0.0-10	---	7.9-8.4	5-20	0	0.0-2.0	0
25:								
Cellar----------	0-2	5.0-15	---	7.4-8.4	0	0	0.0-2.0	0
	2-10	5.0-15	---	7.4-8.4	0	0	0.0-2.0	0
	10-13	---	---	---	---	---	---	---
	>13	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
26:								
Cellar----------	0-2	5.0-15	---	7.4-8.4	0	0	0.0-2.0	0
	2-10	5.0-15	---	7.4-8.4	0	0	0.0-2.0	0
	10-13	---	---	---	---	---	---	---
	>13	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
27:								
Cellar----------	0-2	5.0-15	---	7.4-8.4	0	0	0.0-2.0	0
	2-10	5.0-15	---	7.4-8.4	0	0	0.0-2.0	0
	10-13	---	---	---	---	---	---	---
	>13	---	---	---	---	---	---	---

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
27:								
Topock----------	0-2	5.0-15	---	7.4-8.4	0-5	0	0	0
	2-5	15-40	---	7.4-8.4	0-5	0	0	0
	5-12	15-40	---	7.4-8.4	0-5	0	0	0
	12-23	---	---	---	---	---	---	---
	>23	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
28:								
Cherioni----------	0-1	10-20	---	7.4-8.4	2-10	0	0.0-2.0	0
	1-8	10-25	---	7.4-8.4	10-15	0	0.0-2.0	0
	8-10	---	---	---	---	---	---	---
	>10	---	---	---	---	---	---	---
29:								
Chuckawalla----------	0-1	5.0-15	---	7.4-7.8	1-15	0	0.0-2.0	0
	1-5	10-20	---	7.4-8.4	1-15	0	2.0-20.0	0
	5-20	10-20	---	7.4-8.4	15-25	0	2.0-20.0	0
	20-29	0.0-10	---	7.4-8.4	15-25	0	2.0-8.0	0
	29-34	5.0-15	---	7.4-8.4	15-25	0	0.0-2.0	0
	34-60	0.0-10	---	7.4-8.4	10-25	0	0.0-2.0	0
Riverbend----------	0-2	2.0-10	---	7.9-8.4	1-5	0	0.0-2.0	0
	2-7	2.0-10	---	7.9-8.4	1-5	0	0.0-2.0	0
	7-18	0.0-10	---	7.9-8.4	10-20	0	0.0-2.0	0
	18-34	0.0-10	---	7.4-8.4	10-20	0	0.0-2.0	0
	34-60	1.0-5.0	---	7.9-8.4	10-20	0	0.0-2.0	0
30:								
Chuckawalla family---	0-1	5.0-20	---	7.4-8.4	2-10	0	0.0-2.0	0
	1-10	5.0-20	---	7.4-8.4	2-10	0	0.0-2.0	0
	10-23	10-25	---	7.4-8.4	15-25	0	0.0-2.0	0
	23-60	5.0-15	---	7.4-8.4	15-25	0	0.0-2.0	0
Riverbend family-----	0-2	2.0-10	---	7.4-8.4	1-10	0	0	0
	2-11	2.0-10	---	7.4-8.4	5-10	0	0	0
	11-60	0.0-10	---	7.4-8.4	15-30	0	0	0
31:								
Cipriano----------	0-1	2.0-10	---	7.9-8.4	1-10	0	0	0
	1-10	2.0-10	---	7.9-8.4	15-40	0	0	0
	>10	---	---	---	---	---	---	---

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
32:								
Cline----------	0-1	2.0-10	---	7.4-8.4	5-15	0	0	0
	1-11	2.0-10	---	7.4-8.4	15-25	0	0	0
	11-18	---	---	---	---	---	---	---
	>18	---	---	---	---	---	---	---
33:								
Cline----------	0-1	2.0-10	---	7.4-8.4	5-15	0	0	0
	1-11	2.0-10	---	7.4-8.4	15-25	0	0	0
	11-18	---	---	---	---	---	---	---
	>18	---	---	---	---	---	---	---
34:								
Continental----------	0-1	2.0-10	---	7.4-8.4	0	0	0	0
	1-19	10-20	---	7.4-8.4	0	0	0	0
	19-39	15-35	---	7.4-8.4	0	0	0	0
	39-60	10-20	---	7.4-8.4	15-25	0	0	0
Tres Hermanos--------	0-2	2.0-10	---	7.4-8.4	1-10	0	0	0
	2-26	10-20	---	7.4-8.4	10-25	0	0	0
	26-60	2.0-10	---	7.9-9.0	15-30	0	0	0
35:								
Continental----------	0-1	2.0-10	---	7.4-8.4	0	0	0	0
	1-19	10-20	---	7.4-8.4	0	0	0	0
	19-39	15-35	---	7.4-8.4	0	0	0	0
	39-60	10-20	---	7.4-8.4	15-25	0	0	0
Tres Hermanos--------	0-2	2.0-10	---	7.4-8.4	1-10	0	0	0
	2-26	10-20	---	7.4-8.4	10-25	0	0	0
	26-60	2.0-10	---	7.9-9.0	15-30	0	0	0
36:								
Continental----------	0-1	2.0-10	---	7.4-8.4	0	0	0	0
	1-19	10-20	---	7.4-8.4	0	0	0	0
	19-39	15-35	---	7.4-8.4	0	0	0	0
	39-60	10-20	---	7.4-8.4	15-25	0	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
36:								
Rillino----------	0-2	5.0-15	---	7.4-8.4	15-30	0	0	0
	2-8	10-25	---	7.4-8.4	5-10	0	0	0
	8-16	10-25	---	7.4-8.4	5-10	0	0	0
	16-27	5.0-15	---	7.4-8.4	15-30	0	0	0
	27-39	0.0-15	---	7.4-8.4	15-30	0	0	0
	39-54	0.0-15	---	7.4-8.4	15-30	0	0	0
	54-60	0.0-15	---	7.4-8.4	15-30	0	0	0
37:								
Continental----------	0-1	2.0-10	---	7.4-8.4	0	0	0	0
	1-19	10-20	---	7.4-8.4	0	0	0	0
	19-39	15-35	---	7.4-8.4	0	0	0	0
	39-60	10-20	---	7.4-8.4	15-25	0	0	0
Rillino----------	0-2	5.0-15	---	7.4-8.4	15-30	0	0	0
	2-16	10-25	---	7.4-8.4	5-10	0	0	0
	16-27	5.0-15	---	7.4-8.4	15-30	0	0	0
	27-60	0.0-15	---	7.4-8.4	15-30	0	0	0
38:								
Coolidge----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-27	2.0-10	---	7.4-8.4	2-10	0	0	0
	27-46	2.0-10	---	7.4-8.4	15-25	0	0	0
	46-60	2.0-10	---	7.4-8.4	2-10	0	0	0
Denure----------	0-2	0.0-10	---	7.4-8.4	2-10	0	0	0
	2-7	0.0-10	---	7.4-8.4	2-10	0	0	0
	7-18	2.0-10	---	7.4-8.4	2-10	0	0	0
	18-60	2.0-10	---	7.4-8.4	2-15	0	0	0
39:								
Coolidge family------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-8	2.0-10	---	7.4-8.4	5-10	0	0	0
	8-29	2.0-10	---	7.4-8.4	5-10	0	0	0
	29-41	2.0-10	---	7.4-8.4	15-30	0	0	0
	41-60	0.0-5.0	---	7.4-8.4	10-20	0	0	0
Denure family--------	0-1	0.0-10	---	7.4-8.4	2-10	0	0	0
	1-11	0.0-10	---	7.4-8.4	2-10	0	0	0
	11-60	2.0-10	---	7.4-8.4	2-15	0	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
40:								
Courthouse family----	0-2	5.0-20	---	7.4-7.8	1-15	0	0	0
	2-12	5.0-20	---	7.4-8.4	1-15	0	0	0
	>12	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
Rubble land----------	---	---	---	---	---	---	---	---
41:								
Courthouse family----	0-2	5.0-20	---	7.4-7.8	1-15	0	0	0
	2-12	5.0-20	---	7.4-8.4	1-15	0	0	0
	>12	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
Wagonbow----------	0-3	10-25	---	7.4-8.4	0	0	0	0
	3-6	10-25	---	7.4-8.4	0	0	0	0
	6-50	20-40	---	7.4-8.4	5-10	0	0	0
	50-60	10-25	---	7.4-8.4	5-10	0	0	0
42:								
Far----------	0-5	5.0-20	---	5.1-6.6	0	0	0	0
	5-9	5.0-20	---	5.1-6.6	0	0	0	0
	>9	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
43:								
Dutchflat----------	0-4	5.0-15	---	7.4-7.8	0	0	0.0-2.0	0
	4-37	10-20	---	7.4-7.8	0	0	0.0-2.0	0
	37-60	5.0-15	---	7.4-8.4	1-10	0	0.0-2.0	0
44:								
Dutchflat----------	0-2	2.0-10	---	7.4-8.4	0	0	0	0
	2-28	5.0-10	---	7.4-8.4	0	0	0	0
	28-41	5.0-10	---	7.4-8.4	5-10	0	0	0
	41-60	2.0-10	---	7.4-8.4	5-10	0	0	0
45:								
Gadsden----------	0-2	15-35	---	7.4-8.4	2-10	0	2.0-12.0	4-20
	2-56	15-35	---	7.4-8.4	2-10	0	2.0-12.0	4-20
	56-60	0.0-10	---	7.4-8.4	2-10	0	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
46:								
Gila----------	0-4	2.0-10	---	7.4-8.4	2-10	0	0	0
	4-12	2.0-15	---	7.4-8.4	2-10	0	0	0
	12-21	2.0-10	---	7.4-8.4	2-10	0	0	0
	21-29	0.0-10	---	7.4-8.4	2-10	0	0	0
	29-60	10-20	---	7.4-8.4	2-10	0	0	0
Glendale----------	0-10	10-25	---	7.4-8.4	2-10	0	0	0
	10-37	10-25	---	7.4-8.4	2-10	0	0	0
	37-54	5.0-20	---	7.4-8.4	2-10	0	0	0
	54-60	0.0-10	---	7.4-8.4	2-10	0	0	0
47:								
Gila----------	0-4	2.0-10	---	7.4-8.4	2-10	0	0	0
	4-12	2.0-15	---	7.4-8.4	2-10	0	0	0
	12-21	2.0-10	---	7.4-8.4	2-10	0	0	0
	21-29	0.0-10	---	7.4-8.4	2-10	0	0	0
	29-60	10-20	---	7.4-8.4	2-10	0	0	0
Glendale----------	0-10	10-25	---	7.4-8.4	2-10	0	0	0
	10-21	10-25	---	7.4-8.4	2-10	0	0	0
	21-37	10-25	---	7.4-8.4	2-10	0	0	0
	37-54	5.0-20	---	7.4-8.4	2-10	0	0	0
	54-60	0.0-10	---	7.4-8.4	2-10	0	0	0
48:								
Goldroad----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0.0-2.0	0
	2-13	2.0-10	---	7.4-8.4	2-10	0	0.0-2.0	0
	---	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
49:								
Gonzales----------	0-1	5.0-25	---	6.6-7.3	0	0	0.0-2.0	0
	1-7	20-40	---	6.1-7.3	0	0	0.0-2.0	0
	7-14	20-40	---	6.1-7.3	0	0	0.0-2.0	0
	14-17	---	---	---	---	0	---	---
	>17	---	---	---	---	0	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
50:								
Goodsprings family---	0-2	0.0-5.0	---	7.4-8.4	1-15	0	0	0
	2-18	5.0-10	---	7.4-8.4	5-15	0	0	0
	18-39	---	---	---	---	---	---	---
	39-60	0.0-4.0	---	7.9-8.4	5-25	0	0	0
51:								
Goodsprings family---	0-2	0.0-5.0	---	7.4-8.4	1-15	0	0	0
	2-18	5.0-10	---	7.4-8.4	5-15	0	0	0
	18-39	---	---	---	---	---	---	---
	39-60	0.0-4.0	---	7.9-8.4	5-25	0	0	0
52:								
Goodsprings family---	0-2	0.0-5.0	---	7.4-8.4	1-15	0	0	0
	2-18	5.0-10	---	7.4-8.4	5-15	0	0	0
	18-39	---	---	---	---	---	---	---
	39-60	0.0-4.0	---	7.9-8.4	5-25	0	0	0
53:								
Goodsprings family---	0-2	0.0-5.0	---	7.4-8.4	1-15	0	0	0
	2-18	5.0-10	---	7.4-8.4	5-15	0	0	0
	18-39	---	---	---	---	---	---	---
	39-60	0.0-4.0	---	7.9-8.4	5-25	0	0	0
54:								
Graham----------	0-2	5.0-20	---	7.4-8.4	0	0	0	0-2
	2-7	10-30	---	7.4-8.4	0	0	0	0-2
	7-14	20-40	---	7.4-8.4	0	0	0	0-2
	>14	---	---	---	---	0	---	---
Arivaca----------	0-2	15-25	---	6.6-7.8	0	0	0.0-2.0	0
	2-6	20-40	---	6.6-7.8	0	0	0.0-2.0	0
	6-17	20-40	---	7.4-8.4	0-5	0	0.0-2.0	0
	17-30	20-40	---	7.4-8.4	0-5	0	0.0-2.0	0
	30-36	15-25	---	7.4-7.8	5-15	0	0.0-2.0	0
	>36	---	---	---	---	0	---	---
55:								
Graham----------	0-2	5.0-20	---	6.6-8.4	0	0	0	0-2
	2-7	10-30	---	7.4-8.4	0	0	0	0-2
	7-14	20-40	---	7.4-8.4	0	0	0	0-2
	>14	---	---	---	---	0	---	---

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
55:								
Rock outcrop---------	---	---	---	---	---	---	---	---
56:								
Gunsight----------	0-3	2.0-10	---	7.9-8.4	5-10	0	0.0-2.0	0
	3-6	2.0-10	---	7.9-8.4	5-10	0	0.0-2.0	0
	6-28	2.0-10	---	7.9-8.4	15-30	0	0.0-2.0	0
	28-50	2.0-10	---	7.9-8.4	15-30	0	0.0-2.0	0
	50-60	0.0-10	---	7.9-8.4	15-30	0	0.0-2.0	0
57:								
Gunsight----------	0-3	2.0-10	---	7.9-8.4	5-10	0	0.0-2.0	0
	3-6	2.0-10	---	7.9-8.4	5-10	0	0.0-2.0	0
	6-28	2.0-10	---	7.9-8.4	15-30	0	0.0-2.0	0
	28-50	2.0-10	---	7.9-8.4	15-30	0	0.0-2.0	0
	50-60	0.0-10	---	7.9-8.4	15-30	0	0.0-2.0	0
58:								
Hassell family-------	0-4	10-20	---	7.4-8.4	0-3	0	0	0-2
	4-13	20-40	---	7.4-8.4	0-3	0	0	0-2
	13-24	20-40	---	7.4-8.4	0-3	0	0	0-2
	24-33	10-25	---	7.4-8.4	0-3	0	0	0-2
	33-47	---	---	---	---	0	---	---
	>47	---	---	---	---	0	---	---
Lampshire----------	0-1	5.0-20	---	6.6-8.4	0	0	0	0
	1-6	5.0-20	---	6.6-8.4	0	0	0	0
	6-9	---	---	---	---	0	---	---
	>9	---	---	---	---	0	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
59:								
Holtville----------	0-2	15-35	---	7.4-8.4	2-10	0	2.0-12.0	4-20
	2-23	15-35	---	7.4-8.4	2-10	0	2.0-12.0	4-20
	23-31	15-35	---	7.4-8.4	2-10	0	2.0-12.0	4-20
	31-42	2.0-10	---	7.4-8.4	2-10	0	2.0-12.0	4-20
	42-60	0.0-5.0	---	7.4-8.4	2-10	0	2.0-12.0	4-20

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
60:								
Huevi----------	0-2	2.0-10	---	7.4-8.4	5-10	0	0	0
	2-9	2.0-10	---	7.4-8.4	10-15	0	0	0
	9-27	2.0-10	---	7.4-8.4	10-15	0	0	0
	27-40	2.0-10	---	7.9-8.4	15-30	0	0	0
	40-60	0.0-10	---	7.9-8.4	2-10	0	0	0
61:								
Huevi----------	0-2	2.0-10	---	7.4-8.4	5-10	0	0	0
	2-9	2.0-10	---	7.4-8.4	10-15	0	0	0
	9-27	2.0-10	---	7.4-8.4	15-30	0	0	0
	27-40	2.0-10	---	7.9-8.4	15-30	0	0	0
	40-60	0.0-10	---	7.9-8.4	2-10	0	0	0
62:								
Akela----------	0-1	2.0-10	---	7.4-8.4	5-13	0	0	0-2
	1-12	2.0-10	---	7.4-8.4	5-13	0	0.0-2.0	0
	>12	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
63:								
Hyder----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0.0-2.0	0
	2-7	2.0-10	---	7.4-8.4	2-10	0	0.0-2.0	0
	>7	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
Rubble land----------	---	---	---	---	---	---	---	---
64:								
Indio----------	0-8	2.0-15	---	7.4-8.4	5-15	0	2.0-12.0	4-20
	8-46	2.0-15	---	7.4-8.4	5-15	0	2.0-12.0	4-20
	46-58	15-35	---	7.4-8.4	5-15	0	2.0-12.0	4-20
	58-60	0.0-5.0	---	7.4-8.4	5-15	0	2.0-12.0	4-20
65:								
Ireteba family-------	0-2	2.0-10	---	7.9-8.4	1-5	0	0	0
	2-10	2.0-10	---	7.9-8.4	1-5	0	0	0
	10-19	2.0-10	---	7.9-8.4	5-10	0	0	0
	19-31	2.0-10	---	7.9-8.4	5-10	0	0	0
	31-41	2.0-10	---	7.9-8.4	5-10	0	0	0
	41-60	0.0-10	---	7.9-8.4	5-10	0	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
65:								
Arizo----------	0-2	5.0-15	---	7.4-8.4	0-5	0	0.0-2.0	0
	2-11	5.0-15	---	7.4-8.4	0-5	0	0.0-2.0	0
	11-15	5.0-15	---	7.4-8.4	1-10	0	0.0-2.0	0
	15-35	0.0-10	---	7.4-8.4	1-10	0	0.0-2.0	0
	35-60	0.0-10	---	7.4-8.4	1-10	0	0.0-2.0	0
66:								
Kinley----------	0-2	0.0-10	---	7.4-8.4	1-10	0	0	0
	2-9	5.0-15	---	7.4-8.4	1-10	0	0	0
	9-13	5.0-15	---	7.4-8.4	15-40	0	0	0
	13-24	5.0-15	---	7.4-8.4	15-40	0	0	0
	24-34	5.0-15	---	7.4-8.4	15-40	0	0	0
	34-50	5.0-15	---	7.4-8.4	15-40	0	0	0
	50-60	5.0-15	---	7.4-8.4	15-40	0	0	0
67:								
Kinley----------	0-2	5.0-15	---	7.4-8.4	1-10	0	0	0
	2-9	5.0-15	---	7.4-8.4	1-10	0	0	0
	9-13	5.0-15	---	7.4-8.4	15-40	0	0	0
	13-24	5.0-15	---	7.4-8.4	15-40	0	0	0
	24-34	5.0-15	---	7.4-8.4	15-40	0	0	0
	34-50	5.0-15	---	7.4-8.4	15-40	0	0	0
	50-60	5.0-15	---	7.4-8.4	15-40	0	0	0
Poachie----------	0-2	10-20	---	7.4-8.4	2-10	0	0	0
	2-24	2.0-10	---	7.4-8.4	2-10	0	0	0
	24-38	10-20	---	7.4-8.4	5-15	0	0	0
	38-60	2.0-10	---	7.4-8.4	15-35	0	0	0
68:								
Kofa----------	0-12	16-30	---	7.9-8.4	2-15	0	2.0-12.0	4-20
	12-29	20-33	---	7.9-8.4	2-15	0	2.0-12.0	4-20
	29-60	2.0-6.0	---	7.9-8.4	0	0	2.0-12.0	4-20
69:								
Dudleyville----------	0-2	0.0-15	---	7.4-8.4	0-10	0	0	0
	2-12	0.0-15	---	7.4-8.4	0-10	0	0	0
	12-60	0.0-10	---	7.4-8.4	0-10	0	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
69:								
Vinton----------	0-3	2.0-10	---	7.4-8.4	1-10	0	0	0
	3-24	0.0-10	---	7.4-8.4	2-10	0	0	0
	24-30	0.0-10	---	7.4-8.4	2-10	0	0	0
	30-38	0.0-10	---	7.4-8.4	2-10	0	0	0
	38-60	0.0-10	---	7.4-8.4	2-10	0	0	0
Riverwash----------	---	---	---	---	---	---	---	---
70:								
Dudleyville----------	0-2	0.0-15	---	7.4-8.4	0-10	0	0	0
	2-12	0.0-15	---	7.4-8.4	0-10	0	0	0
	12-60	0.0-10	---	7.4-8.4	0-10	0	0	0
Vinton----------	0-3	2.0-10	---	7.4-8.4	1-10	0	0	0
	3-24	0.0-10	---	7.4-8.4	2-10	0	0	0
	24-30	0.0-10	---	7.4-8.4	2-10	0	0	0
	30-38	0.0-10	---	7.4-8.4	2-10	0	0	0
	38-60	0.0-10	---	7.4-8.4	2-10	0	0	0
Riverwash----------	---	---	---	---	---	---	---	---
71:								
Lagunita----------	0-2	0.0-5.0	---	7.4-8.4	0-5	0	0.0-4.0	0
	2-60	0.0-5.0	---	7.4-8.4	0-5	0	0.0-4.0	0
72:								
Lagunita----------	0-2	0.0-5.0	---	7.4-8.4	0-5	0	0.0-4.0	0
	2-60	0.0-5.0	---	7.4-8.4	0-5	0	0.0-4.0	0
Ripley----------	0-1	2.0-10	---	7.4-8.4	5-15	0	2.0-16.0	0
	1-30	2.0-15	---	7.4-8.4	5-15	0	2.0-16.0	0
	30-60	0.0-10	---	7.4-8.4	5-15	0	2.0-16.0	0
73:								
Lampshire----------	0-1	5.0-15	---	6.6-7.8	0	0	0	0
	1-6	5.0-20	---	6.6-7.8	0	0	0	0
	6-17	---	---	---	---	0	---	---
	>17	---	---	---	---	0	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
74:								
Lampshire----------	0-1	5.0-20	---	6.6-7.8	0	0	0	0
	1-6	5.0-20	---	6.6-7.8	0	0	0	0
	6-17	---	---	---	---	---	---	---
	>17	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
75:								
Lampshire----------	0-2	5.0-20	---	6.6-7.8	0	0	0	0
	2-7	5.0-20	---	6.6-7.8	0	0	0	0
	>7	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
76:								
Lostman----------	0-2	10-20	---	7.4-8.4	0-2	0	0.0-2.0	0
	2-36	10-20	---	7.4-8.4	10-15	0	0.0-2.0	0
	36-56	1.0-5.0	---	7.4-8.4	0-2	0	0.0-2.0	0
	56-60	15-25	---	7.4-8.4	10-15	0	0.0-2.0	0
77:								
Lostman----------	0-2	2.0-10	---	7.4-8.4	0-10	0	0	0
	2-12	2.0-10	---	7.4-8.4	1-10	0	0	0
	12-27	2.0-10	---	7.4-8.4	1-10	0	0	0
	27-38	2.0-10	---	7.4-8.4	1-15	0	0	0
	38-60	2.0-10	---	7.4-8.4	1-15	0	0	0
78:								
Lostman----------	0-2	2.0-10	---	7.4-8.4	0-10	0	0	0
	2-12	2.0-10	---	7.4-8.4	1-10	0	0	0
	12-27	2.0-10	---	7.4-8.4	1-10	0	0	0
	27-38	2.0-10	---	7.4-8.4	1-15	0	0	0
	38-60	2.0-10	---	7.4-8.4	1-15	0	0	0
Kinley----------	0-2	5.0-15	---	7.4-8.4	1-10	0	0	0
	2-9	5.0-15	---	7.4-8.4	1-10	0	0	0
	9-13	5.0-15	---	7.4-8.4	15-40	0	0	0
	13-24	5.0-15	---	7.4-8.4	15-40	0	0	0
	24-34	5.0-15	---	7.4-8.4	15-40	0	0	0
	34-50	5.0-15	---	7.4-8.4	15-40	0	0	0
	50-60	5.0-15	---	7.4-8.4	15-40	0	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
79:								
Marshes	---	---	---	---	---	---	---	---
80:								
Meloland	0-8	5.0-15	---	7.9-8.4	10-15	0	2.0-16.0	4-20
	8-19	5.0-15	---	7.9-8.4	10-15	0	2.0-16.0	4-20
	19-60	15-35	---	7.9-8.4	25-30	0	2.0-16.0	4-20
81:								
Mohon	0-2	0.0-10	---	7.4-8.4	1-5	0	0	0
	2-6	10-20	---	7.4-8.4	2-10	0	0	0
	6-40	15-35	---	7.4-8.4	15-25	0	0	0
	40-60	10-20	---	7.4-8.4	15-25	0	0	0
Kinley	0-2	5.0-15	---	7.4-8.4	1-10	0	0	0
	2-9	5.0-15	---	7.4-8.4	1-10	0	0	0
	9-13	5.0-15	---	7.4-8.4	15-40	0	0	0
	13-24	5.0-15	---	7.4-8.4	15-40	0	0	0
	24-34	5.0-15	---	7.4-8.4	15-40	0	0	0
	34-50	5.0-15	---	7.4-8.4	15-40	0	0	0
	50-60	5.0-15	---	7.4-8.4	15-40	0	0	0
82:								
Mohon	0-2	8.0-15	---	7.4-8.4	1-5	0	0	0
	2-6	10-20	---	7.4-8.4	2-10	0	0	0
	6-40	15-35	---	7.4-8.4	15-25	0	0	0
	40-60	10-20	---	7.4-8.4	15-25	0	0	0
Poachie	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-24	2.0-10	---	7.4-8.4	2-10	0	0	0
	24-38	10-20	---	7.4-8.4	5-15	0	0	0
	38-60	2.0-10	---	7.4-8.4	15-35	0	0	0
83:								
Mohon	0-2	2.0-10	---	7.4-8.4	1-5	0	0	0
	2-6	10-20	---	7.4-8.4	2-10	0	0	0
	6-40	15-35	---	7.4-8.4	15-25	0	0	0
	40-60	10-20	---	7.4-8.4	15-25	0	0	0
Poachie	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-24	2.0-10	---	7.4-8.4	2-10	0	0	0
	24-38	10-20	---	7.4-8.4	5-15	0	0	0
	38-60	2.0-10	---	7.4-8.4	15-35	0	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
84:								
Nickel family--------	0-3	0.0-10	---	7.4-8.4	1-10	0	0	0
	3-7	10-20	---	7.4-8.4	10-25	0	0	0
	7-26	2.0-10	---	7.4-8.4	15-30	0	0	0
	26-60	2.0-10	---	7.4-8.4	15-30	0	0	0
Topawa family--------	0-3	0.0-10	---	6.6-7.8	0	0	0	0
	3-18	10-20	---	6.6-7.8	0	0	0	0
	18-50	2.0-10	---	6.6-7.8	0	0	0	0
	50-58	0.0-10	---	6.6-7.8	0	0	0	0
	58-60	2.0-10	---	7.4-8.4	0-20	0	0	0
Eba family----------	0-1	2.0-10	---	6.6-7.8	0	0	0	0
	1-8	15-35	---	6.6-7.8	0	0	0	0
	8-32	15-35	---	6.6-7.8	0	0	0	0
	32-52	15-35	---	6.6-7.8	0	0	0	0
	52-60	2.0-10	---	7.4-8.4	15-25	0	0	0
85:								
Orwash family--------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-14	2.0-10	---	7.4-8.4	2-10	0	0	0
	14-26	0.0-10	---	7.4-8.4	2-10	0	0	0
	26-47	0.0-5.0	---	7.4-8.4	2-10	0	0	0
	47-60	10-20	---	7.4-8.4	2-10	0	0	0
86:								
Orwash family--------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-14	2.0-10	---	7.4-8.4	2-10	0	0	0
	14-26	0.0-10	---	7.4-8.4	2-10	0	0	0
	26-47	0.0-5.0	---	7.4-8.4	2-10	0	0	0
	47-60	10-20	---	7.4-8.4	2-10	0	0	0
87:								
Penthouse----------	0-2	5.0-20	---	6.6-7.8	0	0	0	0
	2-8	10-30	---	6.6-7.8	0	0	0	0
	8-27	20-40	---	6.6-7.8	1-10	0	0	0
	27-40	10-30	---	6.6-7.8	15-25	0	0	0
	40-47	5.0-20	---	6.6-7.8	10-25	0	0	0
	47-60	0.0-15	---	6.6-7.8	5-15	0	0	0
Gonzales----------	0-1	5.0-25	---	6.6-7.3	0	0	0.0-2.0	0
	1-14	20-40	---	6.1-7.3	0	0	0.0-2.0	0
	14-17	---	---	---	---	---	---	---
	>17	---	---	---	---	---	---	---

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
88:								
Poachie----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-24	2.0-10	---	7.4-8.4	2-10	0	0	0
	24-38	10-20	---	7.4-8.4	5-15	0	0	0
	38-60	2.0-10	---	7.4-8.4	15-35	0	0	0
89:								
Poachie----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-24	2.0-10	---	7.4-8.4	2-10	0	0	0
	24-38	10-20	---	7.4-8.4	5-15	0	0	0
	38-60	2.0-10	---	7.4-8.4	15-35	0	0	0
90:								
Quilotosa----------	0-3	2.0-10	---	7.4-8.4	2-10	0	0	0
	3-9	2.0-10	---	7.4-8.4	2-10	0	0	0
	9-15	---	---	---	---	---	---	---
	>15	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
91:								
Razorback----------	0-2	2.0-10	---	7.4-8.4	1-15	0	0	0
	2-5	5.0-20	---	6.6-7.8	0	0	0	0
	>5	---	---	---	---	0	---	---
92:								
Razorback----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-15	2.0-10	---	7.4-8.4	5-10	0	0	0
	>15	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
93:								
Razorback----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-15	2.0-10	---	7.4-8.4	5-10	0	0	0
	>15	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
94:								
Razorback----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-15	2.0-10	---	7.4-8.4	5-10	0	0	0
	>15	---	---	---	---	---	---	---

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
94:								
Rock outcrop---------	---	---	---	---	---	---	---	---
95:								
Razorback----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-15	2.0-10	---	7.4-8.4	5-10	0	0	0
	>15	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
Rubble land----------	---	---	---	---	---	---	---	---
96:								
Razorback----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-15	2.0-10	---	7.4-8.4	5-10	0	0	0
	>15	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
Rubble land----------	---	---	---	---	---	---	---	---
97:								
Rillino----------	0-2	0.0-15	---	6.6-7.8	2-10	0	0	0
	2-16	10-25	---	7.4-8.4	5-10	0	0	0
	16-27	5.0-15	---	7.4-8.4	15-30	0	0	0
	27-60	0.0-15	---	7.4-8.4	15-30	0	0	0
98:								
Rillino----------	0-2	5.0-15	---	7.4-8.4	15-30	0	0	0
	2-16	10-25	---	7.4-8.4	5-10	0	0	0
	16-27	5.0-15	---	7.4-8.4	15-30	0	0	0
	27-60	0.0-15	---	7.4-8.4	15-30	0	0	0
Tres Hermanos--------	0-2	2.0-10	---	7.4-8.4	1-10	0	0	0
	2-26	10-20	---	7.4-8.4	10-25	0	0	0
	26-60	2.0-10	---	7.9-9.0	15-30	0	0	0
99:								
Ripley----------	0-2	2.0-15	---	7.4-8.4	5-15	0	2.0-14.0	4-15
	2-26	2.0-15	---	7.4-8.4	5-15	0	2.0-14.0	4-15
	26-60	0.0-10	---	7.4-8.4	5-15	0	2.0-14.0	4-15

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
100:								
Riverbend family-----	0-2	2.0-10	---	7.4-8.4	1-10	0	0	0
	2-11	2.0-10	---	7.4-8.4	5-10	0	0	0
	11-60	0.0-10	---	7.4-8.4	15-30	0	0	0
101:								
Riverbend----------	0-2	2.0-10	---	7.9-8.4	1-5	0	0.0-2.0	0
	2-7	2.0-10	---	7.9-8.4	1-5	0	0.0-2.0	0
	7-60	0.0-10	---	7.9-8.4	10-20	0	0.0-2.0	0
102:								
Riverwash----------	---	---	---	---	---	---	---	---
Fluvaquents----------	---	---	---	---	---	---	---	---
103:								
Rock outcrop---------	---	---	---	---	---	---	---	---
Hyder----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0.0-2.0	0
	2-7	2.0-10	---	7.4-8.4	2-10	0	0.0-2.0	0
	>7	---	---	---	---	---	---	---
104:								
Rock outcrop---------	---	---	---	---	---	---	---	---
Razorback----------	0-2	2.0-10	---	7.4-8.4	1-15	0	0	0
	2-15	2.0-10	---	7.4-8.4	5-10	0	0	0
	>15	---	---	---	---	---	---	---
105:								
Rock outcrop---------	---	---	---	---	---	---	---	---
Sunrock----------	0-2	2.0-10	---	7.4-8.4	5-15	0	0	0
	2-5	2.0-10	---	7.4-8.4	5-15	0	0	0
	5-6	---	---	---	---	---	0	---
	>6	---	---	---	---	---	0	---
106:								
Romero----------	0-1	5.0-20	---	6.6-7.8	0	0	0	0
	1-6	10-25	---	6.6-7.8	0	0	0	0
	6-60	---	---	---	---	0	---	---

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
106:								
Chiricahua----------	0-1	5.0-20	---	6.6-7.8	0	0	0.0-2.0	0
	1-6	15-40	---	6.6-7.8	0	0	0.0-2.0	0
	6-14	15-40	---	6.6-7.8	0	0	0.0-2.0	0
	14-16	15-40	---	6.6-7.8	0	0	0.0-2.0	0
	16-22	---	---	---	---	0	---	---
	>22	---	---	---	---	0	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
107:								
Romero----------	0-1	5.0-20	---	6.6-7.8	0	0	0	0
	1-6	10-25	---	6.6-7.8	0	0	0	0
	6-60	---	---	---	---	0	---	---
Lampshire----------	0-1	5.0-15	---	6.6-7.8	0	0	0	0
	1-6	5.0-20	---	6.6-7.8	0	0	0	0
	6-17	---	---	---	---	0	---	---
	>17	---	---	---	---	0	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
108:								
Rositas family-------	0-17	0.0-5.0	---	7.9-8.4	1-10	0	2.0-4.0	0
	17-60	0.0-10	---	7.9-8.4	1-10	0	2.0-4.0	0
Superstition---------	0-1	0.0-5.0	---	7.4-8.4	0-10	0	0	0
	1-7	0.0-5.0	---	7.4-8.4	0-10	0	0	0
	7-60	0.0-5.0	---	7.4-8.4	5-15	0	0	0
Torriorthents--------	---	---	---	---	---	---	---	---
109:								
Rositas----------	0-1	0.0-5.0	---	6.6-8.4	0-5	0	0	0
	1-60	0.0-5.0	---	6.6-8.4	1-10	0	0	0
Superstition family--	0-2	0.0-5.0	---	7.4-8.4	5-10	0	0	0
	2-35	0.0-5.0	---	7.4-8.4	15-25	0	0	0
	35-60	0.0-5.0	---	7.4-8.4	10-20	0	0	0
Torriorthents--------	---	---	---	---	---	---	---	---

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
110:								
Stagecoach----------	0-2	5.0-15	---	7.4-8.4	2-10	0	0	0
	2-19	5.0-15	---	7.4-8.4	5-10	0	0	0
	19-60	5.0-15	---	7.4-8.4	15-25	0	0	0
111:								
Stagecoach----------	0-2	5.0-15	---	7.4-8.4	2-10	0	0	0
	2-19	5.0-15	---	7.4-8.4	5-10	0	0	0
	19-60	5.0-15	---	7.4-8.4	15-25	0	0	0
112:								
Stagecoach----------	0-2	5.0-15	---	7.4-8.4	2-10	0	0	0
	2-19	5.0-15	---	7.4-8.4	5-10	0	0	0
	19-60	5.0-15	---	7.4-8.4	15-25	0	0	0
113:								
Stagecoach----------	0-2	5.0-15	---	7.4-8.4	2-10	0	0	0
	2-19	5.0-15	---	7.4-8.4	5-10	0	0	0
	19-60	5.0-15	---	7.4-8.4	15-25	0	0	0
114:								
Stagecoach----------	0-2	5.0-15	---	7.4-8.4	2-10	0	0	0
	2-19	5.0-15	---	7.4-8.4	5-10	0	0	0
	19-60	5.0-15	---	7.4-8.4	15-25	0	0	0
Topawa family--------	0-2	5.0-15	---	6.6-7.8	0	0	0	0
	2-23	10-25	---	6.6-7.8	0	0	0	0
	23-58	2.0-10	---	6.6-7.8	0-5	0	0	0
	58-60	10-20	---	7.4-8.4	0-5	0	0	0
Eba----------	0-1	2.0-10	---	7.4-8.4	0-5	0	0	0
	1-28	15-35	---	7.4-8.4	0-10	0	0	0
	28-38	10-20	---	7.4-8.4	0-10	0	0	0
	38-60	2.0-10	---	7.4-8.4	2-10	0	0	0
115:								
Stagecoach----------	0-2	5.0-15	---	7.4-8.4	2-10	0	0	0
	2-19	5.0-15	---	7.4-8.4	5-10	0	0	0
	19-60	5.0-15	---	7.4-8.4	15-25	0	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
115:								
Topawa family--------	0-2	5.0-15	---	6.6-7.8	0	0	0	0
	2-23	10-25	---	6.6-7.8	0	0	0	0
	23-58	2.0-10	---	6.6-7.8	0-5	0	0	0
	58-60	10-20	---	7.4-8.4	0-5	0	0	0
Eba----------	0-1	2.0-10	---	7.4-8.4	0-5	0	0	0
	1-28	15-35	---	7.4-8.4	0-10	0	0	0
	28-38	10-20	---	7.4-8.4	0-10	0	0	0
	38-60	2.0-10	---	7.4-8.4	2-10	0	0	0
116:								
Sunrock----------	0-2	2.0-10	---	7.4-8.4	1-15	0	0	0
	2-5	2.0-10	---	7.4-8.4	1-15	0	0	0
	>5	---	---	---	---	0	---	---
117:								
Sunrock----------	0-2	2.0-10	---	7.4-8.4	5-15	0	0	0
	2-5	2.0-10	---	7.4-8.4	5-15	0	0	0
	5-6	---	---	---	---	---	0	---
	>6	---	---	---	---	---	0	---
Rock outcrop---------	---	---	---	---	---	---	---	---
118:								
Tombstone----------	0-1	5.0-20	---	7.4-8.4	1-10	0	0	0
	1-4	5.0-20	---	7.4-8.4	1-10	0	0	0
	4-60	5.0-20	---	7.4-8.4	15-25	0	0	0
Caralampi----------	0-3	0.0-5.0	---	6.6-7.3	0	0	0.0-2.0	0
	3-18	10-20	---	6.6-7.3	0	0	0.0-2.0	0
	18-50	2.0-10	---	6.6-7.3	0	0	0.0-2.0	0
	50-58	1.0-5.0	---	6.6-7.3	0	0	0.0-2.0	0
	58-60	5.0-15	---	7.9-8.4	15-30	0	0.0-2.0	0
Eloma----------	0-1	5.0-20	---	6.6-7.8	0-10	0	0	0
	1-3	10-25	---	6.6-7.8	0-10	0	0	0
	3-40	20-40	---	6.6-7.8	0-10	0	0	0
	40-60	15-40	---	7.4-8.4	2-10	0	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
119:								
Torriorthents--------	---	---	---	---	---	---	---	---
120:								
Torriorthents--------	---	---	---	---	---	---	---	---
121:								
Tumarion----------	0-3	8.0-15	---	7.9-8.4	10-15	0	0.0-4.0	0
	3-10	6.0-15	---	7.9-8.4	25-30	0	0.0-4.0	0
	10-12	---	---	---	---	0	---	---
	>12	---	---	---	---	0	---	---
122:								
Tumarion----------	0-3	8.0-15	---	7.9-8.4	10-15	0	0.0-4.0	0
	3-10	6.0-15	---	7.9-8.4	25-30	0	0.0-4.0	0
	10-12	---	---	---	---	---	---	---
	>12	---	---	---	---	---	---	---
123:								
Tyro----------	0-1	2.0-10	---	7.4-8.4	5-15	0	0	0
	1-6	2.0-10	---	7.4-8.4	5-15	0	0	0
	6-9	2.0-10	---	7.4-8.4	15-40	0	0	0
	>9	---	---	---	---	---	---	---
124:								
Tyro----------	0-1	2.0-10	---	7.4-8.4	5-15	0	0	0
	1-6	2.0-10	---	7.4-8.4	5-15	0	0	0
	6-9	2.0-10	---	7.4-8.4	15-40	0	0	0
	>9	---	---	---	---	---	---	---
125:								
Vekol family---------	0-4	0.0-10	---	7.4-8.4	0	0	0	0
	4-10	2.0-10	---	7.4-8.4	0	0	0	0
	10-26	15-35	---	7.4-8.4	0	0	0	0
	26-40	10-20	---	7.4-7.8	0	0	0	0
	40-60	0.0-5.0	---	7.4-7.8	2-10	0	0	0
126:								
Vekol family---------	0-4	0.0-10	---	7.4-8.4	0	0	0	0
	4-10	2.0-10	---	7.4-8.4	0	0	0	0
	10-26	15-35	---	7.4-8.4	0	0	0	0
	26-40	10-20	---	7.4-7.8	0	0	0	0
	40-60	0.0-5.0	---	7.4-7.8	2-10	0	0	0

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
127:								
Water----------	---	---	---	---	---	---	---	---
128:								
Whitehills----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-7	2.0-10	---	7.4-8.4	5-10	0	0	0
	7-19	10-20	---	7.4-8.4	10-15	0	0	0
	19-27	2.0-10	---	7.4-8.4	15-30	0	0	0
	>27	---	---	---	---	0	---	---
129:								
Whitehills----------	0-2	2.0-10	---	7.4-8.4	2-10	0	0	0
	2-7	2.0-10	---	7.4-8.4	5-10	0	0	0
	7-19	10-20	---	7.4-8.4	10-15	0	0	0
	19-27	2.0-10	---	7.4-8.4	15-30	0	0	0
	>27	---	---	---	---	---	---	---
130:								
White House family---	0-1	0.0-15	---	7.4-8.4	2-10	0	0	0
	1-15	10-25	---	7.4-8.4	2-10	0	0	0
	15-21	20-40	---	7.4-8.4	0	0	0	0-2
	21-32	20-40	---	7.4-8.4	2-10	0	0	0
	32-43	10-25	---	7.4-8.4	2-10	0	0	0
	43-60	0.0-15	---	7.4-8.4	2-10	0	0	0
131:								
White House----------	0-1	0.0-15	---	6.6-7.8	0	0	0	0
	1-5	10-25	---	6.6-7.8	0-10	0	0	0
	5-23	20-40	---	6.6-7.8	0-10	0	0	0
	23-42	10-25	---	6.6-7.8	2-10	0	0	0
	42-60	0.0-15	---	6.6-7.8	2-10	0	0	0
132:								
Wikieup----------	0-1	2.0-10	---	7.4-8.4	0	0	0	0
	1-5	2.0-10	---	7.4-8.4	0	0	0	0
	5-8	---	---	---	---	---	---	---
	>8	---	---	---	---	---	---	---
Mutang----------	0-3	5.0-15	---	7.4-8.4	0-5	0	0	0
	3-5	10-25	---	7.4-8.4	0-5	0	0	0
	5-15	20-40	---	7.4-8.4	0-5	0	0	0
	15-22	---	---	---	---	---	---	---
	>22	---	---	---	---	---	---	---

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
132:								
Rock outcrop---------	---	---	---	---	---	---	---	---
133:								
Mutang----------	0-1	10-20	---	6.6-8.4	0	0	0.0-2.0	0
	1-5	15-25	---	7.4-8.4	0	0	0.0-2.0	0
	5-15	20-30	---	6.6-7.3	0	0	0.0-2.0	0-2
	15-22	---	---	---	---	---	---	---
	>22	---	---	---	---	---	---	---
Wikieup----------	0-1	2.0-10	---	7.4-8.4	0	0	0	0
	1-5	2.0-10	---	7.4-8.4	0	0	0	0
	5-8	---	---	---	---	---	---	---
	>8	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
134:								
Wikieup----------	0-1	2.0-10	---	7.4-8.4	0	0	0	0
	1-5	2.0-10	---	7.4-8.4	0	0	0	0
	5-8	---	---	---	---	---	---	---
	>8	---	---	---	---	---	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
135:								
Yahana family--------	0-4	10-25	---	8.5-9.6	0-5	0	16.0-32.0	30-203
	4-8	8.0-38	---	8.5-9.6	0-5	0	16.0-32.0	30-393
	8-29	10-20	---	8.5-9.6	0-5	0	16.0-32.0	30-393
	29-41	8.0-38	---	8.5-9.6	0-5	0	16.0-32.0	30-393
	41-56	10-25	---	8.5-9.6	0-5	0	16.0-32.0	30-203
	56-60	1.0-3.0	---	7.9-9.6	0-5	0	16.0-32.0	13-30
136:								
Tumarion----------	0-2	10-15	---	7.9-8.4	1-5	0	0	0
	2-15	20-30	---	7.9-8.4	10-30	0	0	0
	15-19	---	---	---	---	0	---	---
	>19	---	---	---	---	0	---	---
Nickel family--------	0-4	5.0-10	---	7.4-8.4	0	0	0.0-2.0	0-13
	4-23	10-25	---	7.4-8.4	0-2	0	0.0-2.0	0
	23-51	5.0-20	---	7.4-8.4	15-35	0	0.0-2.0	0-2
	51-60	20-30	---	7.4-8.4	15-35	0	0.0-2.0	0-2

Table 16.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
137:								
Valena----------	0-2	5.0-15	---	7.4-8.4	0	0	0.0-3.0	0
	2-7	5.0-15	---	7.4-8.4	0	0	0.0-3.0	0
	7-12	10-25	---	7.4-8.4	0	0	0.0-3.0	0
	>12	---	---	---	---	0	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
Carri family---------	0-2	10-20	---	6.6-7.3	0	0	0	0
	2-34	10-25	---	6.6-7.3	0	0	0	0
	34-44	2.0-10	---	6.6-7.3	0	0	0	0
	44-60	5.0-15	---	6.6-7.3	0	0	0	0-2
138:								
Nodman----------	0-2	5.0-12	---	5.6-6.0	0-2	0-2	0.0-2.0	0-13
	2-10	10-22	---	5.6-7.3	0-2	0-2	0.0-2.0	0-13
	10-17	---	---	---	---	0	---	---
	17-60	---	---	---	---	0	---	---
Rock outcrop---------	---	---	---	---	---	---	---	---
139:								
Nodman----------	0-1	4.0-10	---	5.6-6.0	0-2	0-2	0.0-2.0	0-13
	1-6	3.0-9.0	---	6.1-6.5	0-2	0-2	0.0-2.0	0-13
	6-12	9.0-22	---	6.6-7.3	0-2	0-2	0.0-2.0	0-13
	12-60	---	---	---	---	0	---	---
Romero family--------	0-2	5.0-11	---	5.6-6.0	0-2	0-2	0.0-2.0	0-13
	2-7	4.0-10	---	6.6-7.8	0-5	0-2	0.0-2.0	0-13
	7-21	---	---	---	---	0	---	---
	>21	---	---	---	---	0	---	---

Table 17a.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
1:				
Akela	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
Rubble land	---	---	---	---
2:				
Akela	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
Rubble land	---	---	---	---
3:				
Alko family	Duripan	5-20	---	Indurated
4:				
Alko family	Duripan	5-20	---	Indurated
5:				
Amole	---	---	---	---
6:				
Amole	---	---	---	---
7:				
Anthony	---	---	---	---
Dudleyville	---	---	---	---
8:				
Aquarius	---	---	---	---
Akela	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
9:				
Arizo	---	---	---	---
Franconia	---	---	---	---
Riverwash	---	---	---	---
10:				
Arizo	---	---	---	---
Franconia	---	---	---	---
Riverwash	---	---	---	---

Table 17a.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
11:				
Bartmus	Duripan	5-18	---	Indurated
	Bedrock (lithic)	7-30	---	Indurated
12:				
Bonita family	---	---	---	---
13:				
Bonita family	---	---	---	---
Gonzales	Bedrock (paralithic)	10-20	---	Strongly cemented
	Bedrock (lithic)	13-23	---	Indurated
14:				
Brazito family	---	---	---	---
15:				
Bucklebar	---	---	---	---
16:				
Cacique family	Petrocalcic	20-40	---	Very strongly cemented
17:				
Castaneda	Petrocalcic	20-40	---	Very strongly cemented
18:				
Castaneda	Petrocalcic	20-40	---	Very strongly cemented
19:				
Carrizo family	---	---	---	---
20:				
Carrizo family	---	---	---	---
Riverwash	---	---	---	---
21:				
Carrizo	---	---	---	---
Riverwash	---	---	---	---
22:				
Carrizo	---	---	---	---
Riverwash	---	---	---	---
23:				
Cave	Petrocalcic	4-20	---	Very strongly cemented

Table 17a.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
24:				
Cave	Petrocalcic	4-20	---	Very strongly cemented
25:				
Cellar	Bedrock (paralithic)	4-20	---	Very strongly cemented
	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
26:				
Cellar	Bedrock (paralithic)	4-20	---	Very strongly cemented
	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
27:				
Cellar	Bedrock (paralithic)	4-20	---	Very strongly cemented
	Bedrock (lithic)	4-20	---	Indurated
Topock	Bedrock (paralithic)	10-20	---	Very strongly cemented
	Bedrock (lithic)	20-40	---	Indurated
Rock outcrop	---	---	---	---
28:				
Cherioni	Duripan	5-20	4-17	Indurated
	Bedrock (lithic)	7-20	---	Indurated
29:				
Chuckawalla	---	---	---	---
Riverbend	---	---	---	---
30:				
Chuckawalla family	---	---	---	---
Riverbend family	---	---	---	---
31:				
Cipriano	Duripan	4-20	---	Indurated
32:				
Cline	Duripan	4-18	---	Indurated
	Bedrock (lithic)	7-20	---	Indurated

Table 17a.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
33:				
Cline	Duripan	4-18	---	Indurated
	Bedrock (lithic)	7-20	---	Indurated
34:				
Continental	---	---	---	---
Tres Hermanos	---	---	---	---
35:				
Continental	---	---	---	---
Tres Hermanos	---	---	---	---
36:				
Continental	---	---	---	---
Rillino	---	---	---	---
37:				
Continental	---	---	---	---
Rillino	---	---	---	---
38:				
Coolidge	---	---	---	---
Denure	---	---	---	---
39:				
Coolidge family	---	---	---	---
Denure family	---	---	---	---
40:				
Courthouse family	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
Rubble land	---	---	---	---
41:				
Courthouse family	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
Wagonbow	---	---	---	---
42:				
Far	Bedrock (lithic)	5-20	---	Indurated
Rock outcrop	---	---	---	---
43:				
Dutchflat	---	---	---	---

Table 17a.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
44:				
Dutchflat	---	---	---	---
45:				
Gadsden	---	---	---	---
46:				
Gila	---	---	---	---
Glendale	---	---	---	---
47:				
Gila	---	---	---	---
Glendale	---	---	---	---
48:				
Goldroad	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
49:				
Gonzales	Bedrock (paralithic)	10-20	---	Strongly cemented
	Bedrock (lithic)	13-23	---	Indurated
Rock outcrop	---	---	---	---
50:				
Goodsprings family	Petrocalcic	4-20	---	Very strongly cemented
51:				
Goodsprings family	Petrocalcic	4-20	---	Very strongly cemented
52:				
Goodsprings family	Petrocalcic	4-20	---	Very strongly cemented
53:				
Goodsprings family	Petrocalcic	4-20	---	Very strongly cemented
54:				
Graham	Bedrock (lithic)	8-20	---	Indurated
Arivaca	Bedrock (lithic)	20-40	---	Indurated
55:				
Graham	Bedrock (lithic)	8-20	---	Indurated
Rock outcrop	---	---	---	---

Table 17a.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
56:				
Gunsight	---	---	---	---
57:				
Gunsight	---	---	---	---
58:				
Hassell family	Bedrock (paralithic)	20-40	---	Very strongly cemented
	Bedrock (lithic)	30-60	---	Indurated
Lampshire	Bedrock (lithic)	4-20	---	Indurated
	Bedrock (paralithic)	4-20	---	Very strongly cemented
Rock outcrop	---	---	---	---
59:				
Holtville	---	---	---	---
60:				
Huevi	---	---	---	---
61:				
Huevi	---	---	---	---
62:				
Akela	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
63:				
Hyder	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
Rubble land	---	---	---	---
64:				
Indio	---	---	---	---
65:				
Ireteba family	---	---	---	---
Arizo	---	---	---	---
66:				
Kinley	---	---	---	---
67:				
Kinley	---	---	---	---
Poachie	---	---	---	---

Table 17a.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
68:				
Kofa	---	---	---	---
69:				
Dudleyville	---	---	---	---
Vinton	---	---	---	---
Riverwash	---	---	---	---
70:				
Dudleyville	---	---	---	---
Vinton	---	---	---	---
Riverwash	---	---	---	---
71:				
Lagunita	---	---	---	---
72:				
Lagunita	---	---	---	---
Ripley	---	---	---	---
73:				
Lampshire	Bedrock (paralithic)	6-20	---	Strongly cemented
	Bedrock (lithic)	17-20	---	Indurated
Rock outcrop	---	---	---	---
74:				
Lampshire	Bedrock (paralithic)	4-16	---	Strongly cemented
	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
75:				
Lampshire	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
76:				
Lostman	---	---	---	---
77:				
Lostman	---	---	---	---
78:				
Lostman	---	---	---	---
Kinley	---	---	---	---

Table 17a.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
79:				
Marshes	---	---	---	---
80:				
Meloland	---	---	---	---
81:				
Mohon	---	---	---	---
Kinley	---	---	---	---
82:				
Mohon	---	---	---	---
Poachie	---	---	---	---
83:				
Mohon	---	---	---	---
Poachie	---	---	---	---
84:				
Nickel family	---	---	---	---
Topawa family	---	---	---	---
Eba family	---	---	---	---
85:				
Orwash family	---	---	---	---
86:				
Orwash family	---	---	---	---
87:				
Penthouse	---	---	---	---
Gonzales	Bedrock (paralithic)	10-20	---	Very strongly cemented
	Bedrock (lithic)	13-23	---	Indurated
88:				
Poachie	---	---	---	---
89:				
Poachie	---	---	---	---
90:				
Quilotosa	Bedrock (paralithic)	9-12	---	Very strongly cemented
	Bedrock (lithic)	10-20	---	Indurated
Rock outcrop	---	---	---	---

Table 17a.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
91:				
Razorback	Bedrock (lithic)	4-20	---	Indurated
92:				
Razorback	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
93:				
Razorback	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
94:				
Razorback	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
95:				
Razorback	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
Rubble land	---	---	---	---
96:				
Razorback	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
Rubble land	---	---	---	---
97:				
Rillino	---	---	---	---
98:				
Rillino	---	---	---	---
Tres Hermanos	---	---	---	---
99:				
Ripley	---	---	---	---
100:				
Riverbend family	---	---	---	---
101:				
Riverbend	---	---	---	---
102:				
Riverwash	---	---	---	---
Fluvaquents	---	---	---	---
103:				
Rock outcrop	---	---	---	---

Table 17a.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
103:				
Hyder	Bedrock (lithic)	4-20	---	Indurated
104:				
Rock outcrop	---	---	---	---
Razorback	Bedrock (lithic)	4-20	---	Indurated
105:				
Rock outcrop	---	---	---	---
Sunrock	Bedrock (paralithic)	4-20	---	Very strongly cemented
	Bedrock (lithic)	4-20	---	Indurated
106:				
Romero	Bedrock (lithic)	6-20	---	Indurated
Chiricahua	Bedrock (paralithic)	10-20	---	Very strongly cemented
	Bedrock (lithic)	20-40	---	Indurated
Rock outcrop	---	---	---	---
107:				
Romero	Bedrock (paralithic)	4-20	---	Indurated
Lampshire	Bedrock (paralithic)	4-20	---	Very strongly cemented
	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
108:				
Rositas family	---	---	---	---
Superstition	---	---	---	---
Torriorthents	Bedrock (lithic)	4-60	---	Indurated
109:				
Rositas	---	---	---	---
Superstition family	---	---	---	---
Torriorthents	Bedrock (lithic)	4-60	---	Indurated
110:				
Stagecoach	---	---	---	---
111:				
Stagecoach	---	---	---	---

Table 17a.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
112:				
Stagecoach	---	---	---	---
113:				
Stagecoach	---	---	---	---
114:				
Stagecoach	---	---	---	---
Topawa family	---	---	---	---
Eba	---	---	---	---
115:				
Stagecoach	---	---	---	---
Topawa family	---	---	---	---
Eba	---	---	---	---
116:				
Sunrock	Bedrock (lithic)	4-20	---	Indurated
117:				
Sunrock	Bedrock (paralithic)	4-20	---	Very strongly cemented
	Bedrock (lithic)	4-20	---	Indurated
Rock outcrop	---	---	---	---
118:				
Tombstone	---	---	---	---
Caralampi	---	---	---	---
Eloma	---	---	---	---
119:				
Torriorthents	Bedrock (lithic)	4-60	---	Indurated
120:				
Torriorthents	Bedrock (lithic)	4-60	---	Indurated
121:				
Tumarion	Duripan	5-18	---	Indurated
	Bedrock (lithic)	7-20	---	Indurated
122:				
Tumarion	Duripan	5-18	---	Indurated
	Bedrock (lithic)	7-20	---	Indurated
123:				
Tyro	Duripan	5-19	---	Indurated

Table 17a.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
124:				
Tyro	Duripan	5-19	---	Indurated
125:				
Vekol family	---	---	---	---
126:				
Vekol family	---	---	---	---
127:				
Water	---	---	---	---
128:				
Whitehills	Duripan	20-40	---	Indurated
129:				
Whitehills	Duripan	20-40	---	Indurated
130:				
White House family	---	---	---	---
131:				
White House	---	---	---	---
132:				
Wikieup	Bedrock (paralithic)	4-20	---	Very strongly cemented
	Bedrock (lithic)	7-20	---	Indurated
Mutang	Bedrock (paralithic)	10-20	---	Very strongly cemented
	Bedrock (lithic)	15-30	---	Indurated
Rock outcrop	---	---	---	---
133:				
Mutang	Bedrock (paralithic)	10-20	---	Very strongly cemented
	Bedrock (lithic)	20-41	---	Indurated
Wikieup	Bedrock (lithic)	5-20	---	Indurated
Rock outcrop	---	---	---	---
134:				
Wikieup	Bedrock (paralithic)	4-20	---	Very strongly cemented
	Bedrock (lithic)	7-20	---	Indurated
Rock outcrop	---	---	---	---
135:				
Yahana family	---	---	---	---

Table 17a.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			
	Kind	Depth to top	Thickness	Hardness
		In	In	
136:				
Tumarion	Duripan	5-18	---	Indurated
	Bedrock (lithic)	7-20	---	Indurated
Nickel family	---	---	---	---
137:				
Valena	Bedrock (lithic)	10-20	---	Indurated
Rock outcrop	---	---	---	---
Carri family	---	---	---	---
138:				
Nodman	Bedrock (paralithic)	5-20	---	Strongly cemented
	Bedrock (paralithic)	5-20	---	Very strongly cemented
Rock outcrop	---	---	---	---
139:				
Nodman	Bedrock (paralithic)	5-20	---	Very strongly cemented
Romero family	Bedrock (paralithic)	5-20	---	Very strongly cemented
	Bedrock (lithic)	20-40	---	Indurated

Table 17b.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
1:					
Akela	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
Rubble land	---	---	---	---	---
2:					
Akela	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
Rubble land	---	---	---	---	---
3:					
Alko family	0	---	None	High	Low
4:					
Alko family	0	---	None	High	Low
5:					
Amole	0	---	None	High	Low
6:					
Amole	0	---	None	High	Low
7:					
Anthony	0	---	None	High	Low
Dudleyville	0	---	None	High	Low
8:					
Aquarius	0	---	None	High	Low
Akela	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
9:					
Arizo	0	---	None	High	Low
Franconia	0	---	None	High	Low
Riverwash	---	---	---	---	---
10:					
Arizo	0	---	Low	High	Low
Franconia	0	---	None	High	Low
Riverwash	---	---	---	---	---

Table 17b.--Soil Features

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
11:					
Bartmus	0	---	None	High	Low
12:					
Bonita family	0	---	None	High	Low
13:					
Bonita family	0	---	None	High	Low
Gonzales	0	---	None	High	Low
14:					
Brazito family	0	---	None	High	Low
15:					
Bucklebar	0	---	None	High	Low
16:					
Cacique family	0	---	None	High	Low
17:					
Castaneda	0	---	None	High	Low
18:					
Castaneda	0	---	None	High	Low
19:					
Carrizo family	0	---	None	High	Low
20:					
Carrizo family	0	---	None	High	Low
Riverwash	---	---	---	---	---
21:					
Carrizo	0	---	Low	High	Low
Riverwash	---	---	---	---	---
22:					
Carrizo	0	---	None	High	Low
Riverwash	---	---	---	---	---
23:					
Cave	0	---	None	High	Low
24:					
Cave	0	---	None	High	Low
25:					
Cellar	0	---	None	High	Low
Rock outcrop	---	---	---	---	---

Table 17b.--Soil Features

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
26:					
Cellar	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
27:					
Cellar	0	---	None	High	Low
Topock	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
28:					
Cherioni	0	---	None	High	Low
29:					
Chuckawalla	0	---	None	High	Low
Riverbend	0	---	None	High	Low
30:					
Chuckawalla family	0	---	None	High	Low
Riverbend family	0	---	None	High	Low
31:					
Cipriano	0	---	None	High	Low
32:					
Cline	0	---	None	High	Low
33:					
Cline	0	---	None	High	Low
34:					
Continental	0	---	None	High	Low
Tres Hermanos	0	---	None	High	Low
35:					
Continental	0	---	None	High	Low
Tres Hermanos	0	---	None	High	Low
36:					
Continental	0	---	None	High	Low
Rillino	0	---	None	High	Low
37:					
Continental	0	---	None	High	Low
Rillino	0	---	None	High	Low

Table 17b.--Soil Features

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
38:					
Coolidge	0	---	None	High	Low
Denure	0	---	None	High	Low
39:					
Coolidge family	0	---	None	High	Low
Denure family	0	---	None	High	Low
40:					
Courthouse family	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
Rubble land	---	---	---	---	---
41:					
Courthouse family	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
Wagonbow	0	---	None	High	Low
42:					
Far	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
43:					
Dutchflat	0	---	None	High	Low
44:					
Dutchflat	0	---	None	High	Low
45:					
Gadsden	0	---	None	High	High
46:					
Gila	0	---	None	High	Low
Glendale	0	---	None	High	Low
47:					
Gila	0	---	None	High	Low
Glendale	0	---	None	High	Low
48:					
Goldroad	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
49:					
Gonzales	0	---	None	High	Low
Rock outcrop	---	---	---	---	---

Table 17b.--Soil Features

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
50:					
Goodsprings family-----	0	---	Low	Low	Low
51:					
Goodsprings family-----	0	---	Low	Low	Low
52:					
Goodsprings family-----	0	---	Low	Low	Low
53:					
Goodsprings family-----	0	---	Low	Low	Low
54:					
Graham----------	0	---	None	High	Low
Arivaca----------	0	---	None	High	Low
55:					
Graham----------	0	---	None	High	Low
Rock outcrop----------	---	---	---	---	---
56:					
Gunsight----------	0	---	None	High	Low
57:					
Gunsight----------	0	---	None	High	Low
58:					
Hassell family---------	0	---	None	High	Low
Lampshire----------	0	---	None	High	Low
Rock outcrop----------	---	---	---	---	---
59:					
Holtville----------	0	---	None	High	Low
60:					
Huevi----------	0	---	None	High	Low
61:					
Huevi----------	0	---	None	High	Low
62:					
Akela----------	0	---	Low	High	Low
Rock outcrop----------	---	---	---	---	---
63:					
Hyder----------	0	---	None	High	Low
Rock outcrop----------	---	---	---	---	---
Rubble land----------	---	---	---	---	---

Table 17b.--Soil Features

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
64:					
Indio	0	---	None	High	Low
65:					
Ireteba family	0	---	None	High	Low
Arizo	0	---	None	High	Low
66:					
Kinley	0	---	None	High	Low
67:					
Kinley	0	---	None	High	Low
Poachie	0	---	None	High	Low
68:					
Kofa	0	---	None	High	Low
69:					
Dudleyville	0	---	None	High	Low
Vinton	0	---	None	High	Low
Riverwash	---	---	---	---	---
70:					
Dudleyville	0	---	None	High	Low
Vinton	0	---	None	High	Low
Riverwash	---	---	---	---	---
71:					
Lagunita	0	---	None	High	Low
72:					
Lagunita	0	---	None	High	Low
Ripley	0	---	None	High	Low
73:					
Lampshire	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
74:					
Lampshire	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
75:					
Lampshire	0	---	None	High	Low
Rock outcrop	---	---	---	---	---

Table 17b.--Soil Features

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
76:					
Lostman	0	---	Moderate	High	Low
77:					
Lostman	0	---	None	High	Low
78:					
Lostman	0	---	None	High	Low
Kinley	0	---	None	High	Low
79:					
Marshes	---	---	---	---	---
80:					
Meloland	0	---	None	High	Low
81:					
Mohon	0	---	None	High	Low
Kinley	0	---	None	High	Low
82:					
Mohon	0	---	None	High	Low
Poachie	0	---	None	High	Low
83:					
Mohon	0	---	None	High	Low
Poachie	0	---	None	High	Low
84:					
Nickel family	0	---	None	High	Low
Topawa family	0	---	None	High	Low
Eba family	0	---	None	High	Low
85:					
Orwash family	0	---	None	High	Low
86:					
Orwash family	0	---	None	High	Low
87:					
Penthouse	0	---	None	High	Low
Gonzales	0	---	None	High	Low
88:					
Poachie	0	---	None	High	Low
89:					
Poachie	0	---	None	High	Low

Table 17b.--Soil Features

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
90:					
Quilotosa	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
91:					
Razorback	0	---	None	High	Low
92:					
Razorback	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
93:					
Razorback	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
94:					
Razorback	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
95:					
Razorback	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
Rubble land	---	---	---	---	---
96:					
Razorback	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
Rubble land	---	---	---	---	---
97:					
Rillino	0	---	None	High	Low
98:					
Rillino	0	---	None	High	Low
Tres Hermanos	0	---	None	High	Low
99:					
Ripley	0	---	None	High	Low
100:					
Riverbend family	0	---	None	High	Low
101:					
Riverbend	0	---	None	High	Low
102:					
Riverwash	---	---	---	---	---
Fluvaquents	0	---	None	High	Low

Table 17b.--Soil Features

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
103:					
Rock outcrop	---	---	---	---	---
Hyder	0	---	None	High	Low
104:					
Rock outcrop	---	---	---	---	---
Razorback	0	---	None	High	Low
105:					
Rock outcrop	---	---	---	---	---
Sunrock	0	---	Low	High	Low
106:					
Romero	0	---	None	High	Low
Chiricahua	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
107:					
Romero	0	---	None	High	Low
Lampshire	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
108:					
Rositas family	0	---	None	High	Low
Superstition	0	---	None	High	Low
Torriorthents	0	---	Low	---	---
109:					
Rositas	0	---	None	High	Low
Superstition family	0	---	None	High	Low
Torriorthents	0	---	Low	---	---
110:					
Stagecoach	0	---	None	High	Low
111:					
Stagecoach	0	---	None	High	Low
112:					
Stagecoach	0	---	None	High	Low
113:					
Stagecoach	0	---	None	High	Low

Table 17b.--Soil Features

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
114:					
Stagecoach	0	---	None	High	Low
Topawa family	0	---	None	High	Low
Eba	0	---	None	High	Low
115:					
Stagecoach	0	---	None	High	Low
Topawa family	0	---	None	High	Low
Eba	0	---	None	High	Low
116:					
Sunrock	0	---	Low	High	Low
117:					
Sunrock	0	---	Low	High	Low
Rock outcrop	---	---	---	---	---
118:					
Tombstone	0	---	None	High	Low
Caralampi	0	---	None	High	Low
Eloma	0	---	None	High	Low
119:					
Torriorthents	0	---	Low	---	---
120:					
Torriorthents	0	---	Low	---	---
121:					
Tumarion	0	---	None	High	Low
122:					
Tumarion	0	---	None	High	Low
123:					
Tyro	0	---	Low	High	Low
124:					
Tyro	0	---	Low	High	Low
125:					
Vekol family	0	---	None	High	Low
126:					
Vekol family	0	---	None	High	Low
127:					
Water	---	---	---	---	---

Table 17b.--Soil Features

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
128:					
Whitehills	0	---	None	High	Low
129:					
Whitehills	0	---	None	High	Low
130:					
White House family	0	---	None	High	Low
131:					
White House	0	---	None	High	Low
132:					
Wikieup	0	---	None	High	Low
Mutang	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
133:					
Mutang	0	---	Low	High	Low
Wikieup	0	---	Moderate	High	Low
Rock outcrop	---	---	---	---	---
134:					
Wikieup	0	---	None	High	Low
Rock outcrop	---	---	---	---	---
135:					
Yahana family	0	---	None	High	High
136:					
Tumarion	0	---	Moderate	High	Low
Nickel family	0	---	Moderate	High	Low
137:					
Valena	0	---	Low	High	Low
Rock outcrop	---	---	---	---	---
Carri family	0	---	Low	High	Low
138:					
Nodman	0	---	Moderate	Moderate	Low
Rock outcrop	---	---	---	---	---
139:					
Nodman	0	---	Moderate	Moderate	Low
Romero family	0	---	Moderate	Low	Low

Table 18.--Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydrologic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
1:									
Akela----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
Rubble land---------	---								
		Jan-Dec	---	---	---	---	None	---	None
2:									
Akela----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
Rubble land---------	---								
		Jan-Dec	---	---	---	---	None	---	None
3:									
Alko Family---------	D								
		Jan-Dec	---	---	---	---	None	---	None
4:									
Alko Family---------	D								
		Jan-Dec	---	---	---	---	None	---	None
5:									
Amole----------	C								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
6:									
Amole----------	C								
		Jan-Dec	---	---	---	---	None	---	None
7:									
Anthony----------	B								
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
Dudleyville---------	A								
		Jan-Dec	---	---	---	---	None	---	None
8:									
Aquarius----------	C								
		Jan-Dec	---	---	---	---	None	---	None
Akela----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
9:									
Arizo----------	B								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent
Franconia----------	B								
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
Riverwash----------	---								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
10:									
Arizo----------	A								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent
Franconia----------	B								
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
Riverwash----------	A								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent
11:									
Bartmus----------	D								
		Jan-Dec	---	---	---	---	None	---	None
12:									
Bonita Family-------	B								
		Jan-Dec	---	---	---	---	None	---	None
13:									
Bonita Family-------	B								
		Jan-Dec	---	---	---	---	None	---	None
Gonzales----------	D								
		Jan-Dec	---	---	---	---	None	---	None
14:									
Brazito Family------	A								
		Jan-Dec	---	---	---	---	None	---	None
15:									
Bucklebar----------	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
16:									
Cacique Family------	D								
		Jan-Dec	---	---	---	---	None	---	None
17:									
Castaneda----------	C								
		Jan-Dec	---	---	---	---	None	---	None
18:									
Castaneda----------	C								
		Jan-Dec	---	---	---	---	None	---	None
19:									
Carrizo Family------	B								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent
20:									
Carrizo Family------	B								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent
Riverwash----------	---								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent
21:									
Carrizo----------	A								
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
Riverwash----------	A								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
22:									
Carrizo----------	B								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent
Riverwash----------	---								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent
23:									
Cave----------	D								
		Jan-Dec	---	---	---	---	None	---	None
24:									
Cave----------	D								
		Jan-Dec	---	---	---	---	None	---	None
25:									
Cellar----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
26:									
Cellar----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
27:									
Cellar----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Topock----------	D								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
27:									
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
28:									
Cherioni----------	D								
		Jan-Dec	---	---	---	---	None	---	None
29:									
Chuckawalla---------	B								
		Jan-Dec	---	---	---	---	None	---	None
Riverbend----------	A								
		Jan-Dec	---	---	---	---	None	---	None
30:									
Chuckawalla Family--	B								
		Jan-Dec	---	---	---	---	None	---	None
Riverbend Family----	B								
		Jan-Dec	---	---	---	---	None	---	None
31:									
Cipriano----------	D								
		Jan-Dec	---	---	---	---	None	---	None
32:									
Cline----------	D								
		Jan-Dec	---	---	---	---	None	---	None
33:									
Cline----------	D								
		Jan-Dec	---	---	---	---	None	---	None
34:									
Continental---------	C								
		Jan-Dec	---	---	---	---	None	---	None
Tres Hermanos-------	C								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
35:									
Continental---------	C								
		Jan-Dec	---	---	---	---	None	---	None
Tres Hermanos-------	C								
		Jan-Dec	---	---	---	---	None	---	None
36:									
Continental---------	C								
		Jan-Dec	---	---	---	---	None	---	None
Rillino----------	B								
		Jan-Dec	---	---	---	---	None	---	None
37:									
Continental---------	C								
		Jan-Dec	---	---	---	---	None	---	None
Rillino----------	B								
		Jan-Dec	---	---	---	---	None	---	None
38:									
Coolidge----------	B								
		Jan-Dec	---	---	---	---	None	---	None
Denure----------	A								
		Jan-Dec	---	---	---	---	None	---	None
39:									
Coolidge Family-----	B								
		Jan-Dec	---	---	---	---	None	---	None
Denure Family-------	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
40:									
Courthouse Family---	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
Rubble land---------	---								
		Jan-Dec	---	---	---	---	None	---	None
41:									
Courthouse Family---	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
Wagonbow----------	D								
		Jan-Dec	---	---	---	---	None	---	None
42:									
Far----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
43:									
Dutchflat----------	B								
		Jan-Dec	---	---	---	---	None	---	None
44:									
Dutchflat----------	C								
		Jan-Dec	---	---	---	---	None	---	None
45:									
Gadsden----------	D								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
46:									
Gila----------	B								
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
Glendale----------	C								
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
47:									
Gila----------	B								
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
Glendale----------	C								
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
48:									
Goldroad----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
49:									
Gonzales----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
50:									
Goodsprings Family--	D								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
51:									
Goodsprings Family--	D								
		Jan-Dec	---	---	---	---	None	---	None
52:									
Goodsprings Family--	D								
		Jan-Dec	---	---	---	---	None	---	None
53:									
Goodsprings Family--	D								
		Jan-Dec	---	---	---	---	None	---	None
54:									
Graham----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Arivaca----------	D								
		Jan-Dec	---	---	---	---	None	---	None
55:									
Graham----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
56:									
Gunsight----------	B								
		Jan-Dec	---	---	---	---	None	---	None
57:									
Gunsight----------	B								
		Jan-Dec	---	---	---	---	None	---	None
58:									
Hassell Family------	C								
		Jan-Dec	---	---	---	---	None	---	None
Lampshire----------	D								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
58:									
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
59:									
Holtville----------	D								
		Jan-Dec	---	---	---	---	None	---	None
60:									
Huevi----------	B								
		Jan-Dec	---	---	---	---	None	---	None
61:									
Huevi----------	B								
		Jan-Dec	---	---	---	---	None	---	None
62:									
Akela----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
63:									
Hyder----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
Rubble land---------	---								
		Jan-Dec	---	---	---	---	None	---	None
64:									
Indio----------	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
65:									
Ireteba Family------	B								
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
Arizo----------	B								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent
66:									
Kinley----------	B								
		Jan-Dec	---	---	---	---	None	---	None
67:									
Kinley----------	B								
		Jan-Dec	---	---	---	---	None	---	None
Poachie----------	B								
		Jan-Dec	---	---	---	---	None	---	None
68:									
Kofa----------	C								
		Jan-Dec	---	---	---	---	None	---	None
69:									
Dudleyville---------	A								
		Jan-Dec	---	---	---	---	None	---	None
Vinton----------	B								
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
Riverwash----------	---								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
70:									
Dudleyville---------	A								
		Jan-Dec	---	---	---	---	None	---	None
Vinton----------	B								
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
Riverwash----------	---								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent
71:									
Lagunita----------	A								
		Jan-Dec	---	---	---	---	None	---	None
72:									
Lagunita----------	A								
		Jan-Dec	---	---	---	---	None	---	None
Ripley----------	B								
		Jan-Dec	---	---	---	---	None	---	None
73:									
Lampshire----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
74:									
Lampshire----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
75:									
Lampshire----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
76:									
Lostman----------	B								
		Jan-Dec	---	---	---	---	None	---	None
77:									
Lostman----------	B								
		Jan-Dec	---	---	---	---	None	---	None
78:									
Lostman----------	B								
		Jan-Dec	---	---	---	---	None	---	None
Kinley----------	B								
		Jan-Dec	---	---	---	---	None	---	None
80:									
Meloland----------	C								
		Jan-Dec	---	---	---	---	None	---	None
81:									
Mohon----------	C								
		Jan-Dec	---	---	---	---	None	---	None
Kinley----------	B								
		Jan-Dec	---	---	---	---	None	---	None
82:									
Mohon----------	C								
		Jan-Dec	---	---	---	---	None	---	None
Poachie----------	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
83:									
Mohon----------	C								
		Jan-Dec	---	---	---	---	None	---	None
Poachie----------	B								
		Jan-Dec	---	---	---	---	None	---	None
84:									
Nickel Family-------	C								
		Jan-Dec	---	---	---	---	None	---	None
Topawa Family-------	C								
		Jan-Dec	---	---	---	---	None	---	None
Eba Family----------	C								
		Jan-Dec	---	---	---	---	None	---	None
85:									
Orwash Family-------	A								
		Jan-Dec	---	---	---	---	None	---	None
86:									
Orwash Family-------	A								
		Jan-Dec	---	---	---	---	None	---	None
87:									
Penthouse----------	C								
		Jan-Dec	---	---	---	---	None	---	None
Gonzales----------	D								
		Jan-Dec	---	---	---	---	None	---	None
88:									
Poachie----------	B								
		Jan-Dec	---	---	---	---	None	---	None
89:									
Poachie----------	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
90:									
Quilotosa----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
91:									
Razorback----------	D								
		Jan-Dec	---	---	---	---	None	---	None
92:									
Razorback----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
93:									
Razorback----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
94:									
Razorback----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
95:									
Razorback----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
Rubble land---------	---								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
96:									
Razorback----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
Rubble land---------	---								
		Jan-Dec	---	---	---	---	None	---	None
97:									
Rillino----------	B								
		Jan-Dec	---	---	---	---	None	---	None
98:									
Rillino----------	B								
		Jan-Dec	---	---	---	---	None	---	None
Tres Hermanos-------	C								
		Jan-Dec	---	---	---	---	None	---	None
99:									
Ripley----------	B								
		Jan-Dec	---	---	---	---	None	---	None
100:									
Riverbend Family----	B								
		Jan-Dec	---	---	---	---	None	---	None
101:									
Riverbend----------	A								
		Jan-Dec	---	---	---	---	None	---	None
102:									
Riverwash----------	---								
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
102:									
Fluvaquents---------	A								
		January	---	---	---	---	None	Long	Frequent
		February	---	---	---	---	None	Long	Frequent
		March	---	---	---	---	None	Long	Frequent
		April	---	---	---	---	None	Long	Frequent
		May	---	---	---	---	None	Long	Frequent
		June	---	---	---	---	None	Long	Frequent
		July	---	---	---	---	None	Long	Frequent
		August	---	---	---	---	None	Long	Frequent
		September	---	---	---	---	None	Long	Frequent
		October	---	---	---	---	None	Long	Frequent
		November	---	---	---	---	None	Long	Frequent
		December	---	---	---	---	None	Long	Frequent
103:									
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
Hyder----------	D								
		Jan-Dec	---	---	---	---	None	---	None
104:									
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
Razorback----------	D								
		Jan-Dec	---	---	---	---	None	---	None
105:									
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
Sunrock----------	D								
		Jan-Dec	---	---	---	---	None	---	None
106:									
Romero----------	D								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
106:									
Chiricahua----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
107:									
Romero----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Lampshire----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
108:									
Rositas Family------	A								
		Jan-Dec	---	---	---	---	None	---	None
Superstition--------	A								
		Jan-Dec	---	---	---	---	None	---	None
Torriorthents-------	D								
		Jan-Dec	---	---	---	---	None	---	None
109:									
Rositas----------	A								
		Jan-Dec	---	---	---	---	None	---	None
Superstition Family-	A								
		Jan-Dec	---	---	---	---	None	---	None
Torriorthents-------	D								
		Jan-Dec	---	---	---	---	None	---	None
110:									
Stagecoach----------	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
111:									
Stagecoach----------	B								
		Jan-Dec	---	---	---	---	None	---	None
112:									
Stagecoach----------	B								
		Jan-Dec	---	---	---	---	None	---	None
113:									
Stagecoach----------	B								
		Jan-Dec	---	---	---	---	None	---	None
114:									
Stagecoach----------	B								
		Jan-Dec	---	---	---	---	None	---	None
Topawa Family-------	C								
		Jan-Dec	---	---	---	---	None	---	None
Eba----------	C								
		Jan-Dec	---	---	---	---	None	---	None
115:									
Stagecoach----------	B								
		Jan-Dec	---	---	---	---	None	---	None
Topawa Family-------	C								
		Jan-Dec	---	---	---	---	None	---	None
Eba----------	C								
		Jan-Dec	---	---	---	---	None	---	None
116:									
Sunrock----------	D								
		Jan-Dec	---	---	---	---	None	---	None
117:									
Sunrock----------	D								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
117:									
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
118:									
Tombstone----------	B								
		Jan-Dec	---	---	---	---	None	---	None
Caralampi----------	C								
		Jan-Dec	---	---	---	---	None	---	None
Eloma----------	D								
		Jan-Dec	---	---	---	---	None	---	None
119:									
Torriorthents-------	D								
		Jan-Dec	---	---	---	---	None	---	None
120:									
Torriorthents-------	D								
		Jan-Dec	---	---	---	---	None	---	None
121:									
Tumarion----------	D								
		Jan-Dec	---	---	---	---	None	---	None
122:									
Tumarion----------	D								
		Jan-Dec	---	---	---	---	None	---	None
123:									
Tyro----------	D								
		Jan-Dec	---	---	---	---	None	---	None
124:									
Tyro----------	D								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
125:									
Vekol Family--------	D								
		Jan-Dec	---	---	---	---	None	---	None
126:									
Vekol Family--------	D								
		Jan-Dec	---	---	---	---	None	---	None
127:									
Water----------	---								
		Jan-Dec	---	---	---	---	None	---	None
128:									
Whitehills----------	C								
		Jan-Dec	---	---	---	---	None	---	None
129:									
Whitehills----------	C								
		Jan-Dec	---	---	---	---	None	---	None
130:									
White House Family--	C								
		Jan-Dec	---	---	---	---	None	---	None
131:									
White House---------	C								
		Jan-Dec	---	---	---	---	None	---	None
132:									
Wikieup----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Mutang----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
133:									
Mutang----------	C								
		Jan-Dec	---	---	---	---	None	---	None
Wikieup----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
134:									
Wikieup----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
135:									
Yahana Family-------	D								
		Jan-Dec	---	---	---	---	None	---	None
136:									
Tumarion----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Nickel Family-------	B								
		Jan-Dec	---	---	---	---	None	---	None
137:									
Valena----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
Carri Family--------	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map s and soi	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
138:									
Nodman----------	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop--------	---								
		Jan-Dec	---	---	---	---	None	---	None
139:									
Nodman----------	C								
		Jan-Dec	---	---	---	---	None	---	None
Romero Family-------	C								
		Jan-Dec	---	---	---	---	None	---	None

Table 19.--Taxonomic Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Akela	Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Alko family	Loamy, mixed, superactive, thermic, shallow Typic Haplodurids
Amole	Sandy, mixed, thermic Typic Torriorthents
Anthony	Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents
Aquarius	Fine, smectitic, calcareous, thermic Vertic Torriorthents
*Arivaca	Fine, smectitic, thermic Ustic Haplargids
Arizo	Sandy-skeletal, mixed, thermic Typic Torriorthents
Bartmus	Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Haplodurids
Bonita family	Fine, smectitic, thermic Typic Haplotorrerts
Brazito family	Mixed, thermic Typic Torripsamments
Bucklebar	Fine-loamy, mixed, superactive, thermic Typic Haplargids
Cacique family	Fine-loamy, mixed, superactive, thermic Argic Petrocalcids
Caralampi	Loamy-skeletal, mixed, superactive, thermic Ustic Haplargids
Carri family	Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs
Carrizo	Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Carrizo family	Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Castaneda	Fine-loamy, mixed, superactive, thermic Argic Petrocalcids
Cave	Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids
Cellar	Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Torriorthents
Cherioni	Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids
Chiricahua	Clayey, mixed, superactive, thermic, shallow Ustic Haplargids
Chuckawalla	Loamy-skeletal, mixed, superactive, hyperthermic Typic Calciargids
Chuckawalla family	Loamy-skeletal, mixed, superactive, hyperthermic Typic Calciargids
Cipriano	Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids
Cline	Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Continental	Fine, mixed, superactive, thermic Vertic Calciargids
Coolidge	Coarse-loamy, mixed, superactive, hyperthermic Typic Haplocalcids
Coolidge family	Coarse-loamy, mixed, superactive, hyperthermic Typic Haplocalcids
Courthouse family	Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Ustic Torriorthents
Denure	Coarse-loamy, mixed, superactive, hyperthermic Typic Haplocambids
Denure family	Coarse-loamy, mixed, superactive, hyperthermic Typic Haplocambids
Far	Loamy-skeletal, mixed, superactive, mesic Lithic Haplustolls
Tres Hermanos	Fine-loamy, mixed, superactive, thermic Typic Calciargids
Dutchflat	Fine-loamy, mixed, superactive, thermic Typic Haplargids
*Eba	Clayey-skeletal, mixed, superactive, thermic Typic Haplargids
Eba family	Clayey-skeletal, mixed, superactive, thermic Typic Calciargids
Eloma	Clayey-skeletal, mixed, superactive, thermic Ustic Haplargids
Faraway	Loamy-skeletal, mixed, superactive, mesic Lithic Haplustolls
Fluvaquents	Fluvaquents
Franconia	Sandy, mixed, thermic Typic Torrifluvents
Gadsden	Fine, smectitic, calcareous, hyperthermic Vertic Torrifluvents
Gila	Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents
Glendale	Fine-silty, mixed, superactive, calcareous, thermic Typic Torrifluvents

Table 19.--Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Goldroad	Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Gonzales	Clayey, smectitic, thermic, shallow Ustic Haplocambids
Goodsprings family	Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids
Graham	Clayey, smectitic, thermic Lithic Ustic Haplargids
Gunsight	Loamy-skeletal, mixed, superactive, hyperthermic Typic Haplocalcids
Hassell family	Fine, smectitic, thermic Ustertic Haplargids
Holtville	Clayey over loamy, smectitic over mixed, calcareous, hyperthermic Typic Torrifluvents
Huevi	Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids
Akela	Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Hyder	Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Indio	Coarse-silty, mixed, superactive, calcareous, hyperthermic Typic Torrifluvents
Ireteba family	Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents
Kinley	Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Kofa	Clayey over sandy or sandy-skeletal, smectitic over mixed, calcareous, hyperthermic Vertic Torrifluvents
Dudleyville	Sandy-skeletal, mixed, thermic Typic Torriorthents
Lagunita	Mixed, hyperthermic Typic Torripsamments
Lampshire	Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents
Lampshire	Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents
Lostman	Coarse-loamy, mixed, superactive, thermic Typic Haplocambids
Meloland	Coarse-loamy over clayey, mixed, superactive, calcareous, hyperthermic Typic Torrifluvents
Mohon	Fine, smectitic, thermic Typic Calciargids
Mutang	Clayey, mixed, superactive, thermic, shallow Typic Haplargids
Nickel family	Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Nodman	Loamy-skeletal, mixed, superactive, thermic, shallow Ustic Haplargids
Orwash family	Sandy, mixed, thermic Typic Torriorthents
Penthouse	Fine, mixed, superactive, thermic Ustic Calciargids
Poachie	Fine-loamy, mixed, superactive, thermic Typic Calciargids
Quilotosa	Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Razorback	Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents
Rillino	Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Ripley	Coarse-silty over sandy or sandy-skeletal, mixed, superactive, calcareous, hyperthermic Typic Torrifluvents
Riverbend	Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids
Riverbend family	Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids
Romero	Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents
Romero family	Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Ustic Torriorthents

Table 19.--Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Rositas	Mixed, hyperthermic Typic Torripsamments
Rositas family	Mixed, hyperthermic Typic Torripsamments
Stagecoach	Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Sunrock	Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Superstition	Sandy, mixed, hyperthermic Typic Haplocalcids
Superstition family	Sandy, mixed, hyperthermic Typic Haplocalcids
Tombstone	Loamy-skeletal, mixed, superactive, thermic Ustic Haplocalcids
Topawa family	Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Topock	Clayey, mixed, superactive, thermic, shallow Typic Haplargids
Torriorthents	Torriorthents
Tumarion	Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Tyro	Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids
Valena	Loamy, mixed, superactive, mesic Lithic Haplustalfs
Vekol family	Fine, mixed, superactive, thermic Typic Haplargids
Vinton	Sandy, mixed, thermic Typic Torrifluvents
Wagonbow	Fine, smectitic, thermic Ustertic Haplocambids
White House	Fine, mixed, superactive, thermic Ustic Haplargids
White House family	Fine, mixed, superactive, thermic Ustic Haplargids
Whitehills	Loamy-skeletal, mixed, superactive, thermic Typic Argidurids
Wikieup	Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Typic Torriorthents
Yahana family	Fine-silty, mixed, superactive, hyperthermic Typic Haplosalids

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