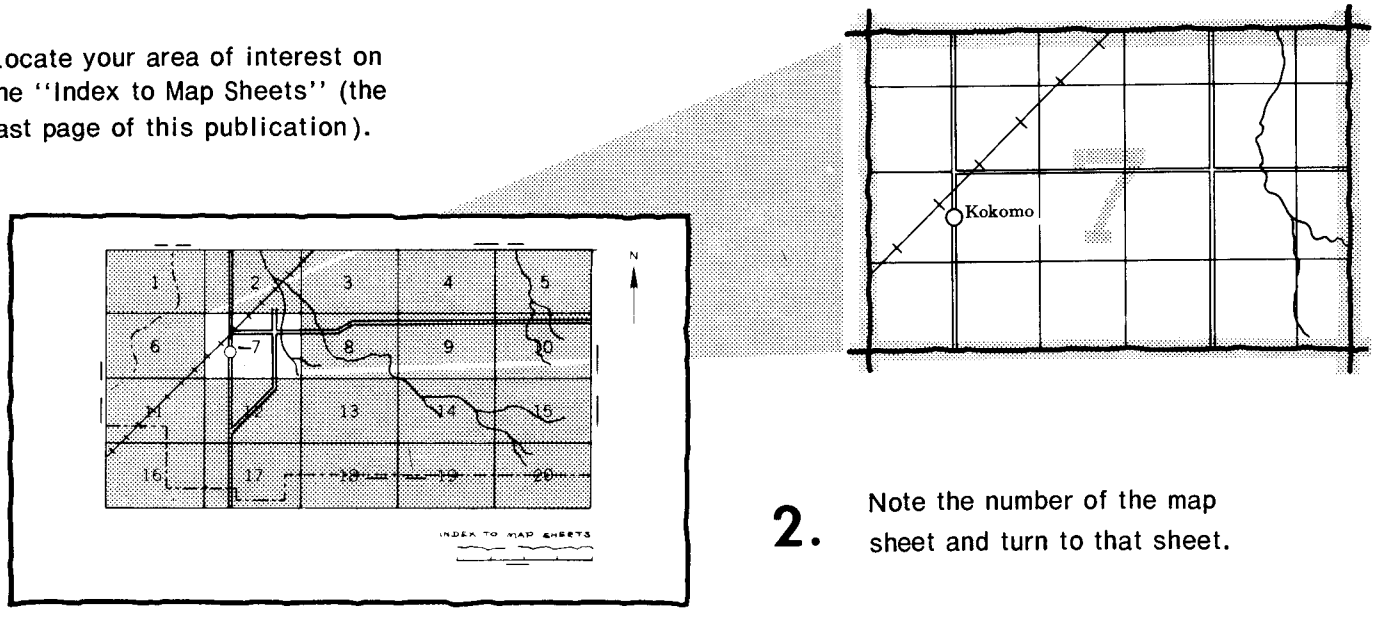
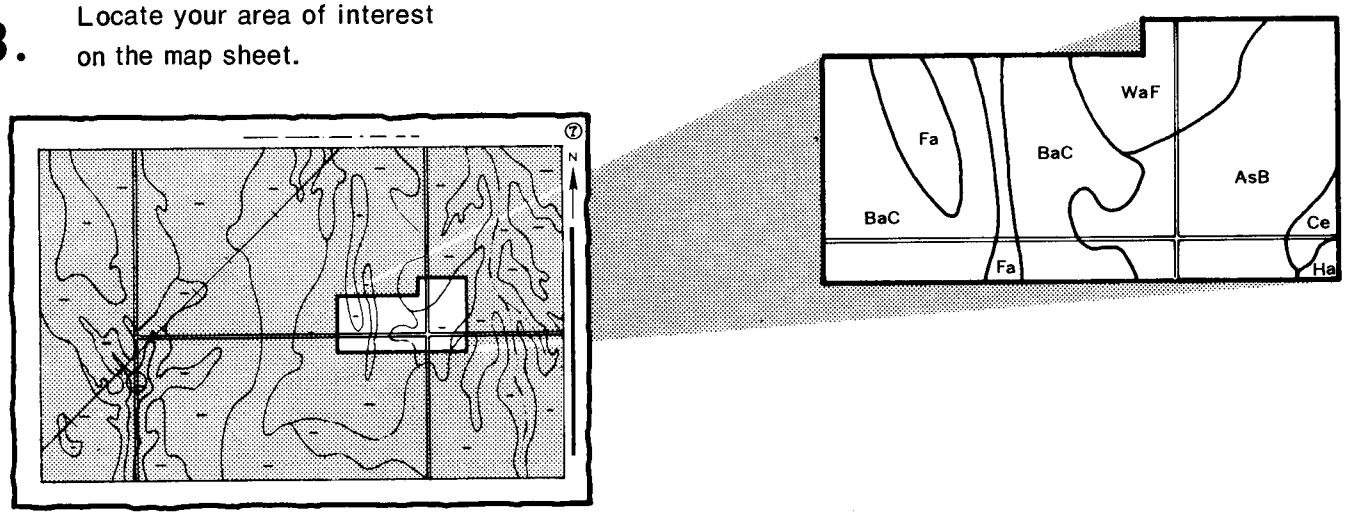
HOW TO USE

1. Locate your area of interest on the "Index to Map Sheets" (the last page of this publication).

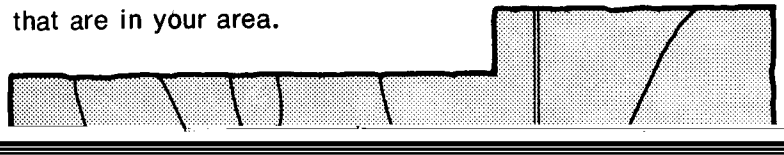


2. Note the number of the map sheet and turn to that sheet.

3. Locate your area of interest on the map sheet.



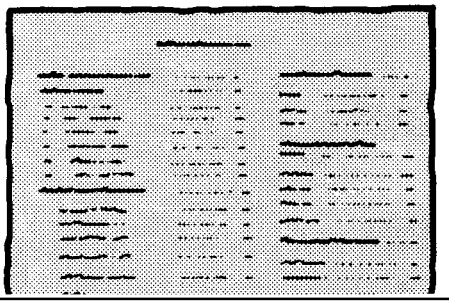
4. List the map unit symbols that are in your area.



Symbols

THIS SOIL SURVEY

5. Turn to "Index to Soil Map Units" which lists the name of each map unit and the page where that map unit is described.



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 Soil Conservation Service has leadership for the federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was performed in the period 1968-1975

contents

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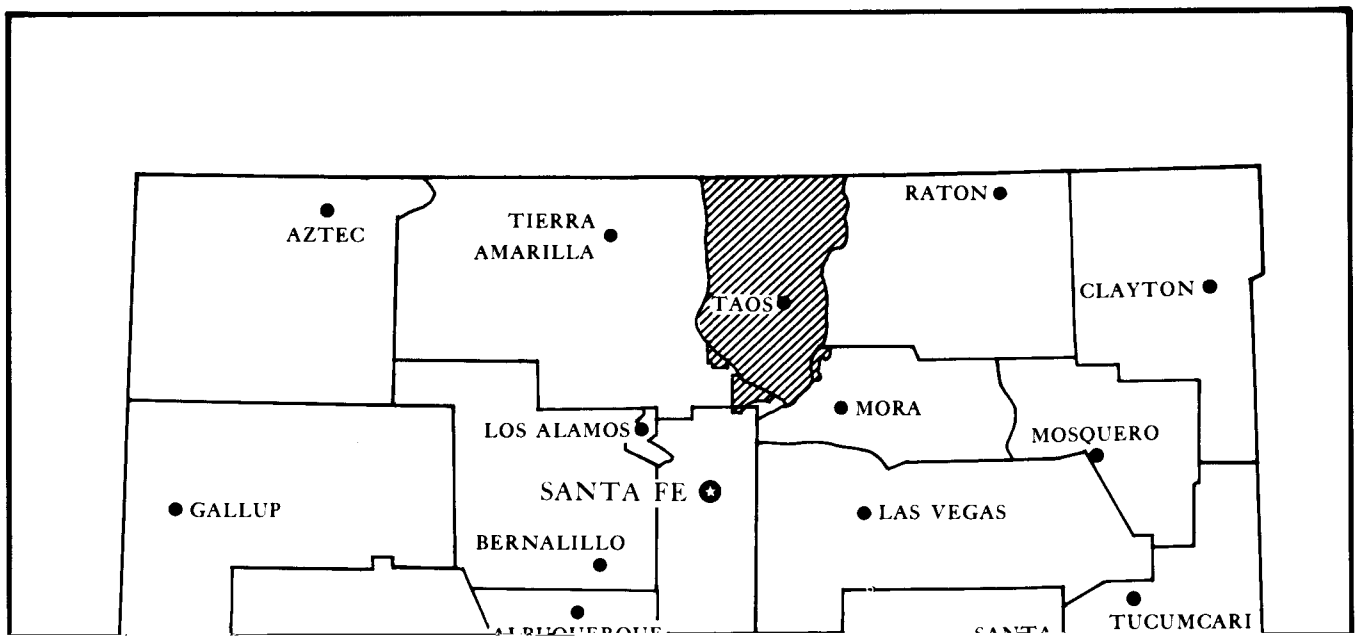
foreword

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

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

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

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The


AZTEC
TIERRA AMARILLA
RATON
CLAYTON
TAOS
MORA
LOS ALAMOS
MOSQUERO
SANTA FE
GALLUP
LAS VEGAS
BERNALILLO
TUCUMCARI

SOIL SURVEY OF TAOS COUNTY AND PARTS OF RIO ARRIBA AND MORA COUNTIES, NEW MEXICO

By Leroy W. Hacker, Soil Conservation Service, and Joseph Owen Carleton, Forest Service

Soils surveyed by Raymond E. Neher, Harold B. Maxwell, William A. Buchanan, James J. Folks, Charles R. Neal, and Donald R. King, Soil Conservation Service
Joseph Owen Carleton, Kenneth L. Dalrymple, and Paul Winkelaars, Forest Service
Edward Bookless and Elmer J. Kingsolver, Bureau of Indian Affairs

Assisting in the fieldwork were Thomas E. Calhoun, Soil Conservation Service
Jerry M. Biglam and Jerry D. Williamson, Forest Service

United States Department of Agriculture, Soil Conservation Service and Forest Service, and
United States Department of the Interior, Bureau of Indian Affairs and Bureau of Land Management, in cooperation with the

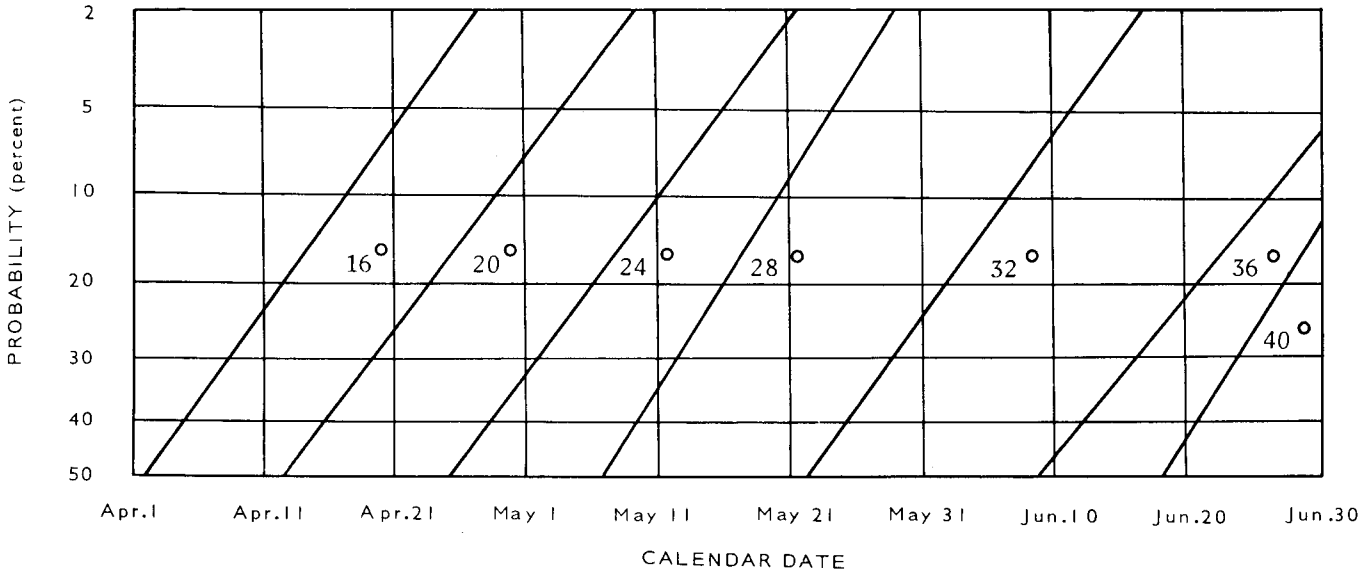
an elevation of about 9,000 feet. Similarly, the average daily maximum temperature ranges from 66 degrees at Ojo Caliente to 56 at Red River, and the average daily minimum temperature ranges from 32 degrees at Ojo Caliente to 23 degrees at Red River. The diurnal range of temperature averages 30 degrees. The wide range of temperature is characteristic of a continental, dry climate.

Summer temperatures are mild, averaging from 80 degrees in the day to 45 at night. Winter temperatures are cold. The daytime average is 40 degrees, and the minimum is about 10 degrees. The highest temperature recorded in Taos County is 101 degrees at Taos in July 1894, but temperatures of 100 degrees or more are rare. Temperatures of 90 degrees or higher occur on an average of 21 days a year at Taos, and temperatures of zero or below occur on an average of 11 days per year, mostly in December through February. Temperatures reached 35 degrees below zero at Tres Piedras on

averages of 34 inches or more occur in the higher mountains.

This mountainous area has a wide range in precipitation from month to month and from year to year. In 1914, for example, the total annual precipitation at Red River was 28.13 inches, and in 1956, the total precipitation at Tres Piedras was only 6.12 inches. The highest monthly total recorded in Taos County was 8.16 inches in August 1922, at Cerro. In some months there is no precipitation. The average number of days each year that have 0.10 inch or more precipitation ranges from 28 at Ojo Caliente to 51 at Red River. The average number of days each year that have precipitation of 0.50 inch or more ranges from 3 in the south to 8 at Red River.

Average annual snowfall ranges from 20 inches in the southwest to 55 inches on the mesas. It increases in the mountains to 100 inches or more. Some of the heaviest snowfalls in the state have occurred in this mountainous area. A record monthly total of 88 inches was recorded



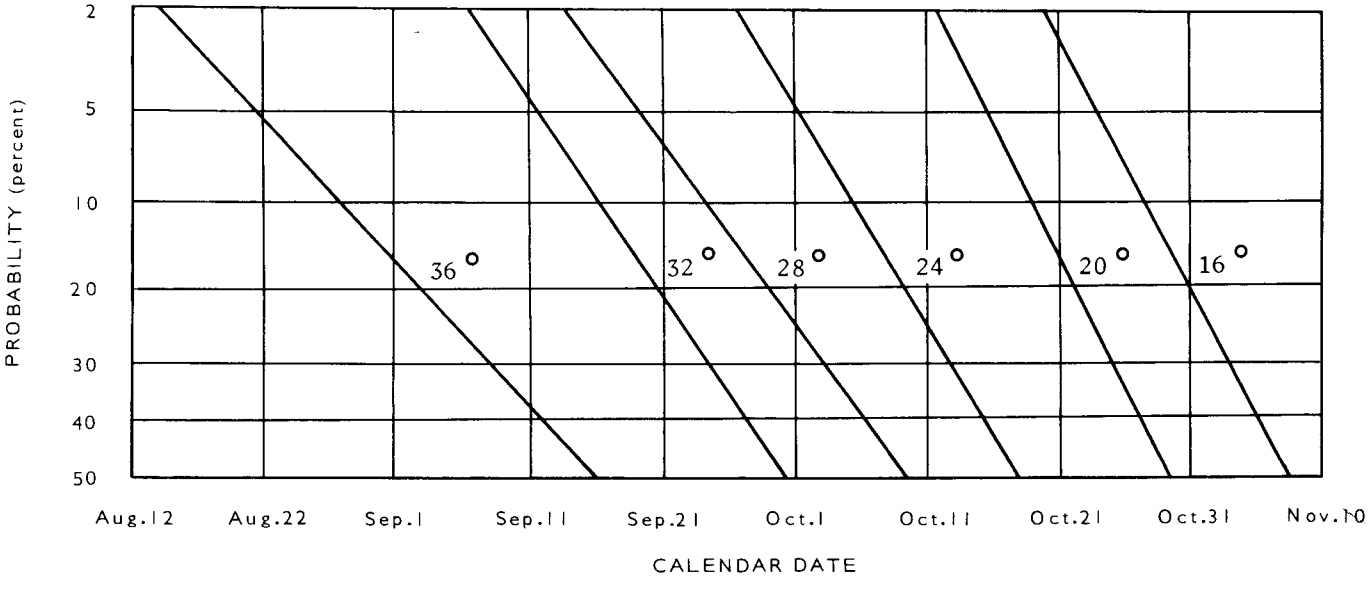


Figure 1.—Probability of selected temperatures in spring and fall.

water for irrigation

Surface water diverted from streams and springs is the main source of irrigation water. Water pumped from wells is used for irrigation in a small area east of Ute Mountain.

Surface irrigation systems are used on about 40,000 acres on bottoms and terraces along streams on the western side of the Sangre de Cristo Mountains. Most of these streams run intermittently, and thus they are unreliable as an irrigation-water supply. Generally, snowmelt in spring and thunderstorms in July and August provide an adequate supply of water. The water quality is satisfactory for most uses.

physiography, relief, and drainage

Clarence L. Haverland, geologist, Soil Conservation Service, prepared this section.

The survey area lies within the Southern Rocky Mountain Physiographic Province. The area is divided into three broad geomorphic units consisting of (1) the Sangre de Cristo Mountains on the east, (2) the westward sloping alluvial piedmont plains and fans from the mountains, generally in the middle of the area, and (3) the basalt areas, generally on the western side of the Rio Grande Gorge. Some basalt areas such as Ute Mountain and other igneous peaks and flows are on the eastern side of the Rio Grande. A separate small breaks area of approximately 50 square miles is in the southwestern part of the Taos area near Ojo Caliente.

Elevation in the mountains ranges from 13,151 feet on Wheeler Peak to about 7,800 feet at the base of the mountains where the alluvial fans begin. Drainage patterns are well defined. Approximately 20 square miles in the southeastern part of the mountain area is drained by the Mora River. Drainage generally is westward, through the dissected alluvial plains into the Rio Grande. Mountain slopes are generally steep. The extent of erosion on these slopes depends on the amount of

Grande is entrenched in a deep gorge approximately 10 miles west of the scarp.

3. A third geomorphic surface consists of the alluvial plains near Taos and in the area north of Questa. Deposition there probably occurred later than in areas of the first two surfaces.

4. The fourth surface consists of old lake bottoms. The largest area, which covers about 20 square miles, is near Sunshine Valley. A smaller area covering about 4 square miles is located about 2 miles north of Amalia. This area probably is similar in age to the Sunshine Valley area.

5. The fifth surface consists of the more level parts of alluvial plains and old lake bottoms. Slopes are mostly gentle, and very little erosion has occurred.

The area west of the Rio Grande Gorge is underlain by a very thick sequence of basalt flows. This area dips gently toward the east. The drainage pattern is very poorly defined, and the soils generally are shallow. Slopes range from very steep on the volcanic plugs and cones to gentle on the flats. Elevation ranges from 10,100 feet to 7,800 feet on the cones and plugs and from 7,800 to 6,800 feet on the flow surfaces.

Along the southern edge of the basalt flows is an area known as the "breaks", which has badland-type topography and active geologic erosion. Slopes are steep and, in places, vertical. This area is drained by the Ojo Caliente River. Elevation ranges from 7,400 feet at the edge of the basalt flows to 6,400 feet in the bed of the river.

history and development

Taken from *A Brief History of Taos, New Mexico*, by Jack Boyer, director, Kit Carson Memorial Foundation.

The first permanent dwellers in the Taos area were the Pit House People, who came into the area about 900 A.D. and lived in round pits in the ground. These people were hunters and farmers. They grew beans, corn, and squash. By 1200 A.D., these Indians were living in small

how this survey was made

Soil scientists made this survey to learn what soils are in the survey area, where they are, and how they can be used. They observed the steepness, length, and shape of slopes; the size of streams and the general pattern of drainage; the kinds of native plants or crops; and the kinds of rock. They dug many holes to study soil profiles. A profile is the sequence of natural layers, or horizons, in a soil. It extends from the surface down into the parent material, which has been changed very little by leaching or by plant roots.

The soil scientists recorded the characteristics of the profiles they studied and compared those profiles with others in nearby counties and in more distant places. They classified and named the soils according to nationwide uniform procedures. They drew the boundaries of the soils on aerial photographs. These photographs show trees, buildings, fields, roads, and other details that help in drawing boundaries accurately. The soil maps at the back of this publication were prepared from aerial photographs.

The areas shown on a soil map are called map units

But only part of a soil survey is done when the soils have been named, described, interpreted, and delineated on aerial photographs and when the laboratory data and other data have been assembled. The mass of detailed information then needs to be organized so that it can be used by farmers, rangeland and woodland managers, engineers, planners, developers and builders, home buyers, and others.

soil survey intensities

The soils in the Taos area were mapped at two levels of intensity, which were designed to meet the expected uses of the soils. The irrigated cropland and the area in and near Taos and other communities were mapped at a high degree of detail. The soils in these areas make up the narrowly defined map units in this survey. Those map units named as a phase of a soil series or as a complex generally are narrowly defined.

The rest of the Taos area, where the soils are used as rangeland and woodland and for recreation uses and wildlife habitat, was mapped at a lesser degree of detail

general soil map units

The general soil map at the back of this publication [illegible] loam, and the subsoil is brown, light brown, and light

The Vibo soils are well drained and are on alluvial fans. The surface layer is brown sandy loam, and the subsoil is brown sandy clay loam. The substratum is light brown sandy loam and brown loamy sand.

The Montecito soils are well drained and are on alluvial fans. The surface layer is light yellowish brown and brown loam, and the subsoil is brown and light brown clay loam and gravelly clay loam. The substratum is white very gravelly sandy loam and light gray extremely gravelly sandy loam.

The soils in this unit are used mainly as grazable woodland, for which they have medium potential. The low precipitation, short growing season, and the hazard of wind erosion are the main limitations.

These soils have medium potential for use as habitat for openland, woodland, and rangeland wildlife.

3. Manzano-Loveland-Caruso

The potential for residential and other urban uses is low. Limitations include the hazard of flooding, the high water table, and the low strength of the soils.

The potential of this unit is high for use as habitat for openland wildlife and low to medium for use as habitat for wetland wildlife.

Shallow to deep soils on mesas, cones, hills, and alluvial fans

The soils in this group are mainly west of the Rio Grande. They formed in material that weathered from basalt, in eolian sediment, and in mixed alluvium. The native vegetation is short and mid grasses, shrubs, pinyon pine, and oneseed juniper. The elevation ranges from 6,500 to 10,000 feet.

4. Travelers-Luhon-Stunner

This map unit is on basalt mesas and alluvial fans in

The Servilleta soils are on broad basalt mesas. The

This map unit is on basalt mesas, hills, and volcanic Amalia soils 15 percent, and Devisadero soils 15

medium to high potential for the production of ponderosa pine. They have medium potential for use as habitat for woodland wildlife. Ustorthents have low potential for most uses. The limitations are the steep slopes and the hazard of water erosion.

Deep soils on high mountains

The soils in this group are on mountains. They formed in alluvium, colluvium, and residuum. The native vegetation is mid grasses, shrubs, ponderosa pine, Douglas-fir, white fir, Engelmann spruce, and subalpine fir. The elevation ranges from 8,000 to 13,000 feet.

9. Wellsville-Ess

Deep, well drained, strongly sloping to steep soils; on mountainsides

This map unit is in valleys along Costilla and

and Penitente soils make up 35 percent. Nambe, Marosa, and Presa soils make up the rest.

Rock outcrop consists of nearly vertical cliffs and bare rock.

The Penitente soils are on mountaintops between areas of Rock outcrop. The surface layer is dark grayish brown gravelly loam and brown very gravelly loam. The subsoil is light brown very gravelly loam and very pale brown very cobbly sandy clay loam. The substratum is light gray, extremely gravelly loamy sand.

This map unit is used mainly for wildlife habitat. It has medium potential for this use. Limitations to other uses are the slope, the rock outcrops, the hazard of erosion, and the very short growing season.

11. Presa-Jaroso-Angostura

Deep, well drained, nearly level to very steep soils, on

This map unit is in the northern half of the Sangre de [redacted]

The Maes soils are on mountainsides. The surface

detailed soil map units

The map units on the detailed soil maps at the back of this survey represent the soils in the survey area. The map unit descriptions in this section, along with the soil maps, can be used to determine the suitability and

Most map units include small scattered areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils. Such

about 14 inches thick. The substratum is pink very gravelly sandy loam to a depth of 60 inches or more.

The Amalia soil is moderately permeable to a depth of about 17 inches and rapidly permeable below that. The effective rooting depth is 60 inches or more. The available water capacity is low. Runoff is rapid. Water erosion is a moderate hazard.

The Manzano soil is deep and well drained. It formed in alluvium. Typically, the surface layer is brown clay loam about 10 inches thick. The subsoil is dark brown clay loam about 33 inches thick. The substratum, to a depth of 60 inches or more, is brown clay loam that has a few fine strong brown mottles.

The Manzano soil is moderately slowly permeable. The effective rooting depth is 60 inches or more. The available water capacity is high. Runoff is medium. Water erosion is a moderate hazard.

These soils are suited to use as woodland and native grazing land. They can provide forage for domestic livestock and for wildlife.

Proper grazing use improves the plant cover, results in the accumulation of plant residue, and helps prevent erosion.

A management system is needed in which the seasons of grazing and resting of pasture vary. This kind of system results in a balanced plant community of vigorous and productive forage plants such as blue

eolian material. Typically, the surface layer is brown loam about 3 inches thick. The subsoil is brown and pinkish gray clay loam about 13 inches thick. The substratum is pink loam about 9 inches thick. Fractured, lime-coated basalt bedrock is at a depth of about 25 inches. The soil is strongly calcareous in the lower part.

The Antonito soil is moderately slowly permeable. The effective rooting depth is 20 to 40 inches. The available water capacity is low to moderate. Runoff is medium and water erosion is a moderate hazard. Wind erosion is a slight hazard.

The Travelers soil is shallow and well drained. It formed in material that weathered from basalt and in eolian material. Typically, the surface layer is brown very stony loam about 4 inches thick. The subsoil is brown very stony loam about 4 inches thick, and the substratum is pale brown very stony clay loam about 5 inches thick. Fractured, lime-coated basalt is at a depth of 13 inches. The soil is slightly calcareous to moderately calcareous.

The Travelers soil is moderately permeable. The effective rooting depth is 10 to 20 inches. The available water capacity is very low. Runoff is slow to medium, and water erosion is a slight to moderate hazard. Wind erosion is a slight hazard.

These soils are used for grazing by domestic livestock and wildlife. Proper grazing use improves the plant

and terraces. Individual areas are 3 to 100 acres. The elevation is 6,500 to 7,500 feet. The mean annual precipitation is 13 inches, and the mean annual temperature is 49 degrees F. The frost-free season is about 125 to 135 days.

Included with this soil in mapping are a few areas of

use of this soil as a site for septic tank absorption fields. This limitation can be overcome by increasing the size of the absorption field or by modifying the field.

This soil has medium potential for use as habitat for openland, wetland, and rangeland wildlife.

cobbly clay loam, cobbly clay, very cobbly clay, or very cobbly sandy clay that extends to a depth of more than 60 inches.

Permeability is moderately slow to very slow. The effective rooting depth is 60 inches or more, and the

Cryoborolls and Cryaquolls that are so intermingled that they could not be mapped separately at the scale selected. These soils formed in alluvium in high mountain valleys at an elevation of 9,000 to 11,000 feet. The mean annual precipitation is 20 inches, and the

Included with these soils in mapping are Manzano soils and gravel bars. These soils make up about 15 percent of this map unit, but the separate areas are less than 3 acres in size.

These soils are dark-colored to a depth of more than 20 inches. They are stratified gravelly sandy loam, gravelly loam, and gravelly sandy clay loam to a depth of 60 inches or more. The content of gravel and cobblestones ranges from 15 to 50 percent. The

is moderate. Runoff is slow to medium, and the hazard of water erosion is slight to moderate.

The dominant vegetation is Douglas-fir, aspen, and ponderosa pine. Kentucky bluegrass and silverleaf cinquefoil make up the understory.

In most areas, these soils are used for timber and wildlife habitat. They have high potential for the production of Douglas-fir and medium potential for the production of ponderosa pine. Harvesting trees is

elevation of 8,000 to 10,500 feet. The mean annual precipitation is 25 inches, and the mean annual temperature is 40 degrees F. The frost-free season is 85 to 105 days. Derecho cobbly loam makes up about 50 percent of the map unit, and Rock outcrop makes up about 35 percent.

Included in mapping are areas of Jaroso, Angostura, and Etoe soils, which make up about 15 percent of this complex. These soils generally occur as isolated islands within the complex.

The Derecho soil is deep and well drained. It formed in colluvium and residuum of interbedded shale and sandstone. Typically, the surface layer is brown cobbly loam 17 inches thick. The subsoil is yellowish brown very cobbly sandy clay to a depth of 60 inches or more.

Permeability is moderately slow. The effective rooting depth is more than 60 inches, and the available water capacity is moderate. Runoff is rapid, and the hazard of erosion is high.

Rock outcrop consists mainly of nearly vertical escarpments of interbedded sandstone and shale.

The dominant vegetation is Gambel oak and true mountainmahogany and a few scattered Douglas-fir, ponderosa pine, and white fir.

The soil in this complex is used mainly for wildlife habitat.

The Derecho soil is best suited to the development of habitat for wildlife. Old burned stumps indicate that the vegetation is representative of a fire climax. Reforestation is extremely difficult because plant competition is severe. The very steep slopes and scattered rock outcrops preclude most uses.

The Derecho soil in this complex has medium potential for use as habitat for woodland wildlife.

DFG—Devisadero-Rock outcrop complex, very steep. This complex consists of small areas of Devisadero gravelly loam and Rock outcrop that are so

Permeability is moderately slow. The effective rooting depth is 20 to 40 inches. The available water capacity is mainly low. Runoff is medium, and the erosion hazard is moderate to high.

Rock outcrop consists of very steep to vertical escarpments of interbedded shale and sandstone and, in some areas, of limestone.

The dominant vegetation is oneseed juniper, pinyon pine, blue grama, sideoats grama, broom snakeweed, and sand dropseed.

The Devisadero soil is used for grazing and for wildlife habitat. The vegetation should be maintained to give maximum protection to the soil. The moderate to high erosion hazard, the rock outcrops, and the steep slopes severely limit the use of this map unit.

This complex has medium potential for use as habitat for woodland wildlife.

DmF—Diamante extremely gravelly loam, 15 to 40 percent slopes. This is a deep, well drained, moderately steep to steep soil on terrace slopes adjacent to drainageways. It formed in mixed alluvium. The elevation is 8,000 to 9,800 feet. The mean annual precipitation is 24 inches, and the mean annual temperature is 40 degrees F. The frost-free season is 90 to 110 days.

Included in mapping are areas of Trampas and Jaroso soils, which make up about 20 percent of this map unit.

Typically, the surface layer is light brownish gray extremely gravelly loam and light gray extremely gravelly sandy loam about 14 inches thick. The subsurface layer is very pale brown extremely gravelly sandy loam about 17 inches thick. The subsoil is light brown very gravelly sandy clay and extremely gravelly sandy clay to a depth of 60 inches and more.

Permeability is moderately slow. The effective rooting depth is 60 inches or more. The available water capacity is low. Runoff is medium, and the hazard of water erosion is moderate.

very steep soils and Rock outcrop at an elevation of 7,500 to 10,500 feet. The mean annual precipitation is 20 inches for Eutroboralfs and 30 inches for Glossoboralfs. The mean annual temperature is 42 degrees F for Eutroboralfs and 40 degrees F for Glossoboralfs soils. The frost-free season is 80 to 100 days. This association is about 40 percent Eutroboralfs, 40 to 80 percent slopes; 30 percent Glossoboralfs, 40 to 80 percent slopes, and 20 percent Rock outcrop. Much of the Rock outcrop is scattered throughout the association as nearly vertical escarpments.

640 acres. The elevation is 6,500 to 7,500 feet. The mean annual precipitation is 12 inches, and the mean annual temperature is 49 degrees F. The frost-free season is 125 to 135 days.

Included in mapping are Fernando loam, which makes up about 10 percent of the map unit; Hernandez soils, which makes up 15 percent; and Rock outcrop, which makes up 5 percent.

Typically, the surface layer is brown cobbly loam about 3 inches thick. The subsoil is brown and light brown loam and clay loam about 20 inches thick. The

thick. It is brown silt loam and clay loam in the upper part and light brown and light reddish brown clay loam in the lower part. The substratum is pink clay loam and loam to a depth of 60 inches or more.

Permeability is moderately slow. The effective rooting depth is 60 inches or more. The available water capacity is high. Runoff is slow, and water erosion is a moderate hazard. Wind erosion also is a moderate hazard.

This soil is used as native grazing land for domestic livestock and wildlife. Proper grazing use improves the plant cover, results in the accumulation of plant residue, and helps prevent erosion.

A management system is needed in which the seasons of grazing and resting of pasture vary. The result will be a balanced plant community of vigorous and productive forage plants such as western wheatgrass, blue grama, and galleta.

When in excellent condition, the vegetation on this soil is western wheatgrass, big sagebrush, galleta, blue grama, and bottlebrush squirreltail. If the condition of the plant community deteriorates, the proportion of desirable forage plants and the plant cover decreases. These plants are replaced by big sagebrush and rubber rabbitbrush. This deterioration generally results in accelerated wind and water erosion.

Range seeding, brush management, stock trails, earthen ponds, fences, access roads, and pipelines are feasible on this soil.

This soil has medium potential for use as habitat for openland and rangeland wildlife.

FeB—Fernando clay loam, 1 to 3 percent slopes. This is a deep, well drained, nearly level soil in broad, intermountain valleys. It formed in mixed alluvium. The areas mainly are elongated and are oriented according to the drainage. They are 10 to 100 acres in size. The elevation is 6,500 to 7,500 feet. The mean annual precipitation is 12 inches, and the mean annual temperature is 49 degrees F. The frost-free season is 125 to 135 days.

Included with this soil in mapping are Silva soils, which make up 10 percent of the map unit. Also included are narrow arroyo bottoms. In an area near Picuris, some soils are as much as 15 percent coarse fragments. Also included, in the northern part of the survey area, are Tenorio soils, which make up about 15 percent of the map unit.

Near the community of Sunshine there is an area to a depth of 60 inches or more. The soil is slightly calcareous in the upper part and strongly calcareous in the lower part.

This soil is moderately slowly permeable. The effective rooting depth is 60 inches or more. The available water capacity is high. Runoff is slow. Water and wind erosion are moderate hazards.

This soil is used as native grazing land and for irrigated hay and pasture. It has high potential for irrigated hay and pasture and moderately high potential for small grains and some row crops.

The major limitations to the use of this soil for irrigated crops and pasture are the short growing season and cool nights. These factors limit the choice of crops and reduce yields. Suitable crops include alfalfa, small grains, and cool-season grasses. Other crops are potatoes and vegetables that are adapted to the short growing season and cool nights.

Growing mainly high-residue crops and grasses or legumes helps to reduce water erosion and soil blowing. These crops also help to maintain soil tilth. Fertilization and improved water-management practices help to maintain or increase yields. Generally, all crops except legumes respond to nitrogen, and all legumes respond to phosphate fertilizer. Border, furrow, corrugation, and sprinkler irrigation systems are suitable. Rotation grazing increases the yield and quality of pasture. Timely harvesting improves the quality of crops.

This soil has medium potential for most urban uses. Low strength and the moderate shrink-swell potential and moderately slow permeability in the subsoil are limitations. The shrinking and swelling and the low strength can be overcome by good design and careful installation. The moderately slow permeability is a limitation to the use of this soil for septic tank absorption fields. This limitation can be overcome by increasing the size of the absorption area or by modifying the filter field.

This soil has medium potential for use as habitat for openland, wetland, and rangeland wildlife.

FeC—Fernando clay loam, 3 to 5 percent slopes. This is a deep, well drained, gently sloping soil that formed in alluvium on alluvial fans. Slopes are smooth and convex. Individual areas are 5 to 40 acres in size. The elevation is 6,500 to 7,500 feet. The mean annual precipitation is 12 inches. The mean annual temperature is 49 degrees F, and the frost-free season is 125 to 135 days.

Included with this soil in mapping and making up about

is high. Runoff is medium, and water erosion is a moderate to severe hazard. Wind erosion is a moderate hazard.

This soil is used as native grazing land and for irrigated hay and pasture. It has medium potential for hay and pasture and for small grains.

The major limitations in using this soil for irrigated crops are the short growing season, cool nights, and moderate slopes. These factors limit the choice of crops and the type of irrigation systems used. Maintaining a good cover of crops or of crop residue helps to control erosion. Suitable crops are grasses and legumes for hay or pasture. Barley or other small grains can also be grown.

Fertilization and improved water-management practices help to maintain or increase yields. Generally, all crops except legumes respond to the use of nitrogen, and all legumes respond to the use of phosphate fertilizer. Corrugation, border, and sprinkler irrigation systems are suitable. Rotation grazing increases the yield and quality of pasture. Timely harvesting improves the quality of crops.

This soil has medium potential for most urban uses. Low strength and the moderate shrink-swell potential and moderately slow permeability in the subsoil are limitations. The shrinking and swelling and the low strength can be overcome by good design and careful installation. The moderately slow permeability is a limitation to the use of this soil for septic tank absorption fields. This limitation can be overcome by increasing the size of the absorption area or by modifying the filter field.

This soil has medium potential for use as habitat for openland and rangeland wildlife.

FfC—Fernando clay loam, 5 to 7 percent slopes. This is a deep, well drained, moderately slowly permeable soil that

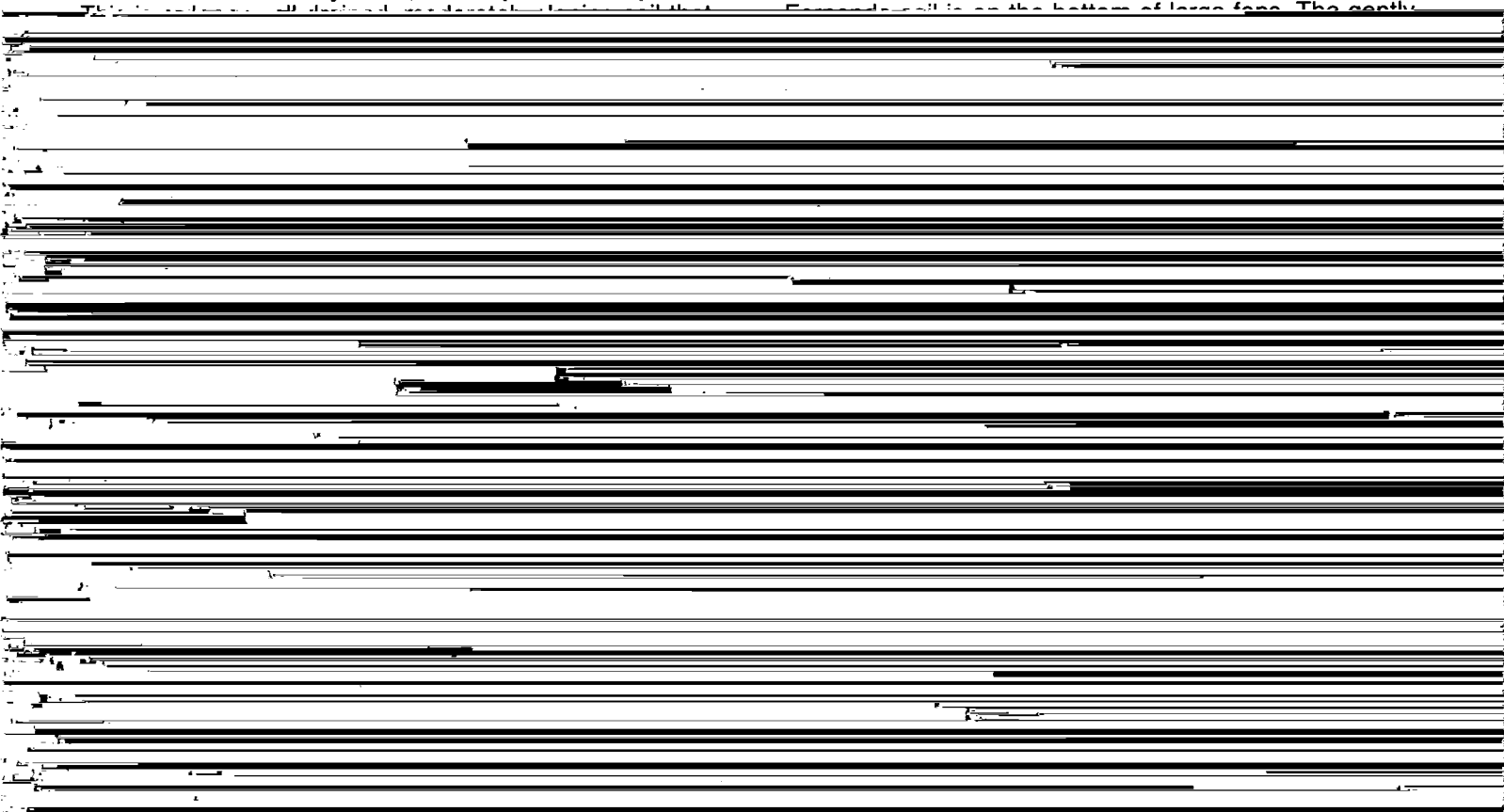
The major limitations in using this soil for crops are the short growing season, cool nights, and steep slopes. Maintaining a good cover of crops or crop residue throughout the year helps to control erosion. Suitable crops are grasses and legumes for hay or pasture. Barley or other small grains can also be grown.

Fertilization and improved water-management practices help to maintain or increase yields. Generally, all crops except legumes respond to the use of nitrogen, and all legumes respond to the use of phosphate fertilizer. Border, corrugation, and sprinkler irrigation systems are suitable. Rotation grazing increases the yield and quality of pasture. Timely harvesting improves the quality of crops.

This soil has medium potential for most urban uses. Low strength and the moderate shrink-swell potential and moderately slow permeability in the subsoil are limitations. The shrinking and swelling and the low strength can be overcome by good design and careful installation. The moderately slow permeability is a limitation to the use of this soil for septic tank absorption fields. This limitation can be overcome by increasing the size of the absorption area or by modifying the filter field.

This soil has medium potential for use as habitat for openland and rangeland wildlife.

FHB—Fernando-Hernandez association, nearly level. This association consists of nearly level and undulating soils on alluvial fans and valley sides. The elevation is 6,500 to 7,500 feet. The mean annual precipitation is 12 inches. The mean annual temperature is 49 degrees F, and the frost-free season is 125 to 135 days. This association is about 65 percent Fernando clay loam, 1 to 3 percent slopes, and 20 percent Hernandez loam that has 3 to 5 percent slopes. The nearly level



available water capacity is high. Runoff is medium. The hazards of water and wind erosion are moderate.

These soils are suitable for use as native grazing land for domestic livestock and wildlife. Proper grazing use improves the plant cover, results in the accumulation of residue, and helps prevent erosion.

A resource management system is needed that can control the brush species, allow variation in seasons of use, and provide for resting the forage species in

The dominant vegetation is blue grama, bottlebrush squirreltail, sand dropseed, rubber rabbitbrush, big sagebrush, and Apacheplume.

A planned grazing system is needed that provides for periods of deferred grazing. The use of machinery is feasible in brush and noxious-weed control and in constructing and maintaining fences and livestock watering facilities, including earthen ponds.

Hernandez loam that has 3 to 5 percent slopes, and 35 percent Kim loam that has 1 to 3 percent slopes.

days. Hernandez loam that has 1 to 5 percent slopes and Petaca stony loam that has 3 to 8 percent slopes

HSC—Hernandez-Silva association, gently sloping. This association consists of gently sloping soils on upland fans. The elevation is 7,100 to 8,000 feet. The mean annual precipitation is 12 inches, and the mean annual temperature is 49 degrees F. The frost-free season is 125 to 145 days. Hernandez gravelly loam that has 0 to 5 percent slopes makes up about 55 percent of this association, and Silva loam that has 0 to 5 percent slopes makes up 35 percent.

Included with these soils in mapping are areas of Petaca soils which make up 10 percent of this association.

The Hernandez soil is deep and well drained. It formed in mixed alluvium and eolian sediment. Typically, the surface layer is brown gravelly loam and brown loam about 10 inches thick. The subsoil is light brownish gray clay loam about 5 inches thick. The substratum is light brownish gray very gravelly sandy clay loam to a depth of 60 inches or more. This soil is moderately calcareous to strongly calcareous.

Permeability is moderate. The effective rooting depth is 60 inches or more, and the available water capacity is high. Runoff is slow, and the hazard of water erosion is slight. The wind erosion hazard is moderate.

The Silva soil is deep and well drained. It formed in mixed alluvium and eolian sediment. Typically, the surface layer is brown loam about 2 inches thick. The subsoil is brown clay loam about 30 inches thick. The substratum is pinkish white calcareous loam over white very gravelly sandy loam to a depth of 60 inches or more.

Permeability is slow. The effective rooting depth is 60 inches. The available water capacity is high. Runoff is medium, and the hazard of water erosion is moderate.

These soils are suited to use as native grazing land for domestic livestock and wildlife.

When in excellent condition, the vegetation on these soils is western wheatgrass, needleandthread, galleta, blue grama, and big sagebrush. If the condition of the range deteriorates, the proportion of desirable forage plants and the plant cover decrease. These plants are replaced by threeawn, big sagebrush, broom snakeweed, and rubber rabbitbrush. Deterioration of the plant community can result in accelerated wind and water erosion.

Proper grazing use is needed to maintain adequate plant cover. A resource management system is needed that can control the brush species, allow variation in seasons of use, and provide resting of forage in successive years. This can increase the quantity of the more desirable plants, such as western wheatgrass, needleandthread, galleta, and winterfat. Fencing, brush management, installing pipelines, constructing access roads and stock trails, and range seeding are feasible in

JaD—Jaroso-Angostura complex, 5 to 15 percent slopes. This complex consists of small areas of Jaroso and Angostura soils that are so intermingled that they could not be mapped separately at the scale selected. These moderately to strongly sloping soils are on broad mountaintops and benches at an elevation of 9,000 to 11,000 feet. The mean annual precipitation is 30 inches, and the mean annual temperature is 36 degrees F. The frost-free season is 50 to 70 days. These soils are in similar positions on the landscape. The Jaroso soil is similar to the Angostura soil except that it has a subsoil that is more than 35 percent clay. The Jaroso soil makes up about 60 percent of this complex, and the Angostura soil makes up about 25 percent.

Included in mapping are Maes, Etoe, and Presa soils, which make up about 15 percent of this complex.

The Jaroso soil is deep and well drained. It formed in colluvium and residuum of interbedded shale and sandstone. Typically, the surface layer is very pale brown cobbly loam about 16 inches thick. The subsoil is very pale brown cobbly clay loam, cobbly clay, very cobbly clay, and very cobbly sandy clay. It extends to a depth of more than 60 inches.

Permeability is moderately slow. The effective rooting depth is more than 60 inches. The available water capacity is moderate. Runoff is slow, and the hazard of water erosion is slight.

The Angostura soil is deep and well drained. It formed in colluvium and residuum of interbedded shale and sandstone. Typically, the surface layer is light brownish gray cobbly loam about 10 inches thick. The subsoil is light yellowish brown very cobbly sandy clay loam that extends to a depth of more than 60 inches.

Permeability is moderate. The effective rooting depth is more than 60 inches. The available water capacity is low. Runoff is slow, and the hazard of water erosion is slight.

The dominant vegetation is Engelmann spruce and Douglas-fir and some scattered white fir, subalpine fir, and aspen. The understory consists of Thurber fescue, tufted hairgrass, mountain brome, kinnikinnick, and grouse whortleberry.

These soils are well suited to the production of Douglas-fir, Engelmann spruce, white fir, subalpine fir, and aspen. Conventional methods of harvesting can be used for trees, but they generally are restricted in rainy periods.

The soils have medium potential for use as habitat for woodland wildlife.

JaF—Jaroso-Angostura-Mascarenas complex, 15 to 40 percent slopes. This complex consists of small areas of Jaroso, Angostura, and Mascarenas soils that are so intermingled that they could not be mapped separately at the scale selected. These moderately

temperature is 36 degrees F. The frost-free season is 50 to 70 days. These soils are in similar positions on the landscape. The Jarcso soil is similar to the Angostura soil except that it has a subsoil that is more than 35 percent clay. The Jaroso soil has a thinner surface layer than the Mascarenas soil. This complex is 40 percent Jaroso soil, 30 percent Angostura soil, and 20 percent

favor the shade-tolerant Engelmann spruce and white fir or the Douglas fir. A stand of aspen can be maintained through cultural practices.

The soils in this complex have medium potential for use as habitat for woodland wildlife.

JaG—Jaroso-Angostura-Mascarenas complex, 40

fir. The understory is mainly Thurber fescue, tufted hairgrass, mountain brome, kinnikinnick, and grouse whortleberry.

The Angostura soil is deep and well drained. It formed in colluvium of interbedded sandstone and shale. Typically, the surface layer is light

plants to complete their growth cycle. The result will be a balanced plant community that helps to maintain the woodland and that provides productive forage for grazing animals. Fences, trails, and access roads can be constructed on this soil to facilitate grazing management.

This soil has medium potential for use as habitat for openland, woodland, and rangeland wildlife. It has medium potential for the production of firewood.

LoB—Loveland clay loam, 0 to 3 percent slopes. This is a deep, poorly drained, level to nearly level soil. It formed in mixed alluvium on alluvial bottoms and terraces. Individual areas are 3 to 100 acres in size. The

This soil has low potential for most urban uses because of the high water table and the hazard of flooding, which are continuing limitations.

This soil has high potential for use as habitat for wetland wildlife and medium potential for use as habitat for rangeland wildlife.

LtC—Luhon-Travelers complex, 3 to 7 percent slopes. This complex consists of small areas of Luhon and Travelers soils that are so intermingled that they could not be mapped separately at the scale selected. The elevation is 7,600 to 8,800 feet. The mean annual precipitation is 11 inches and the mean annual

plant community of vigorous and productive forage plants such as Indian ricegrass, western wheatgrass, and winterfat. If the condition of the plant community deteriorates, the desirable forage plants decrease in number and are replaced by broom snakeweed, rubber rabbitbrush, and pingue. This deterioration generally results in accelerated soil erosion.

Range management, including fencing, range seeding, brush management, and constructing livestock watering facilities, access roads, and stock trails is feasible on the Luhon soil. The use of machinery is not feasible on the Travelers soil because of the shallowness to bedrock and the rock outcrops. However, because the Travelers and Luhon soils are so intermingled on the landscape, it is difficult to separate them for management purposes.

These soils have medium potential for the development of habitat for rangeland wildlife.

MaF—Maes cobbly loam, 15 to 40 percent slopes. This is a deep, well drained, moderately steep to steep soil on south-facing mountain slopes. It formed in colluvium and residuum of interbedded shale and sandstone. The elevation is 8,000 to 10,500 feet. The mean annual precipitation is 30 inches, and the mean annual temperature is 40 degrees F. The frost-free season is 70 to 90 days.

Included in mapping and making up about 25 percent of this map unit is a soil that is similar to this Maes soil except that it has a thick, dark-colored surface layer. Also included and making up about 15 percent of this unit are areas of Etoe soils.

Typically, the upper part of the surface layer is light brownish gray cobbly loam 2 inches thick, and the lower part is pale brown cobbly sandy loam about 18 inches thick. The subsoil is yellowish brown, very cobbly sandy clay that extends to a depth of 60 inches or more.

Permeability is moderately slow. The effective rooting depth is more than 60 inches. The available water

mapped separately at the scale selected. These level to strongly sloping soils are on broad mountaintops and benches at an elevation of 8,000 to 10,500 feet. The mean annual precipitation is 30 inches, and the mean annual temperature is 40 degrees F. The frost-free season is 70 to 90 days. The Maes soil makes up about 50 percent of this map unit, and the Etoe soil makes up about 35 percent. The Maes soil is similar to the Etoe soil except that it has more clay in the subsoil.

Included in mapping are Jaroso, Angostura, and Presa soils, which make up about 15 percent of this complex.

The Maes soil is deep and well drained. It formed in colluvium and residuum of interbedded shale and sandstone. Typically, the surface layer is light brownish gray cobbly loam and pale brown cobbly sandy loam about 20 inches thick. The subsoil is yellowish brown, very cobbly sandy clay that extends to a depth of 60 inches or more.

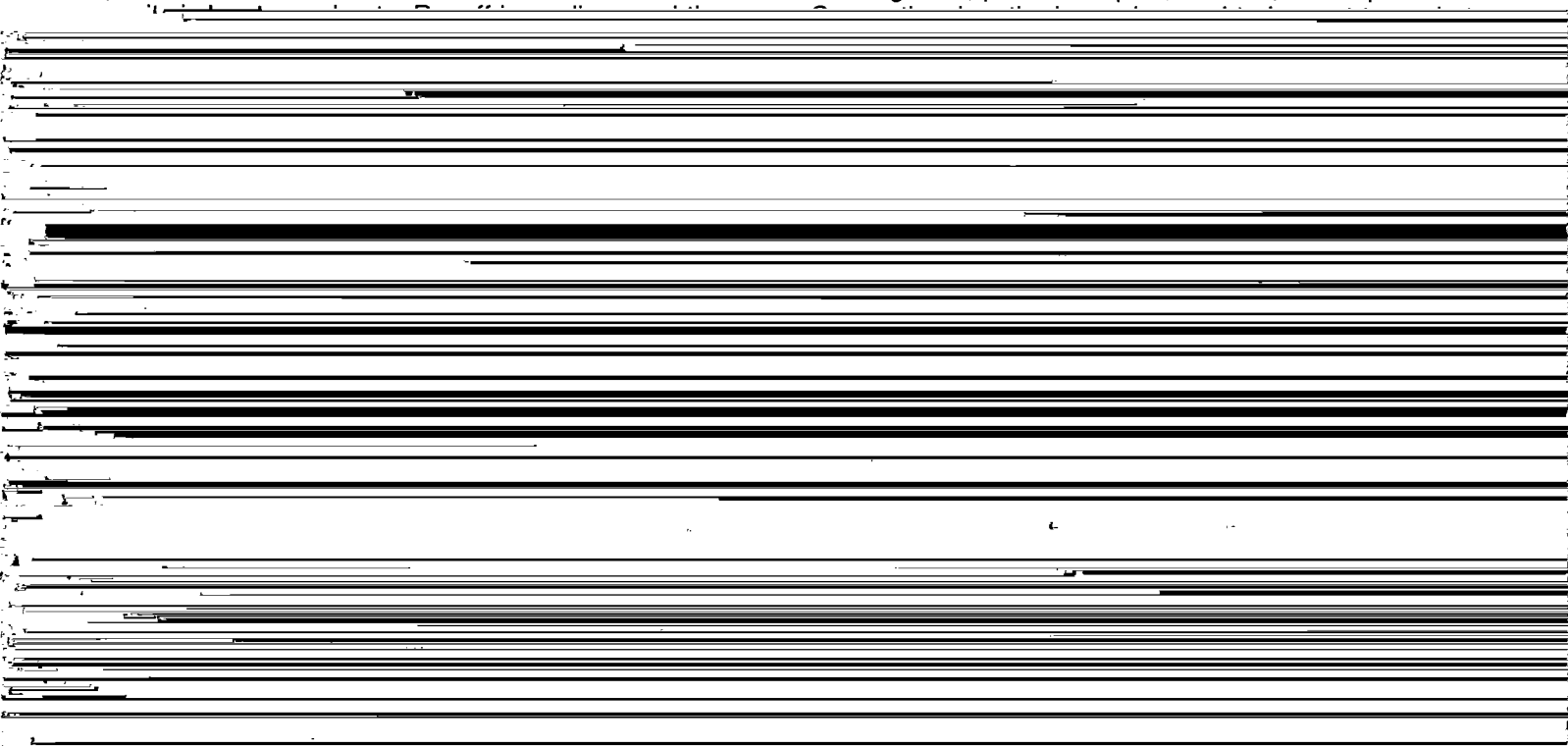
Permeability is moderately slow. The effective rooting depth is more than 60 inches. The available water capacity is low to moderate. Runoff is slow, and the hazard of water erosion is slight.

The Etoe soil is deep and well drained. It formed in colluvium and residuum of interbedded shale and sandstone. Typically, the surface layer is light brownish gray cobbly loam about 26 inches thick. The subsoil is brown very cobbly sandy clay loam that extends to a depth of 60 inches or more.

Permeability is moderate. The effective rooting depth is more than 60 inches. The available water capacity is moderate. Runoff is slow, and the hazard of water erosion is slight.

The dominant vegetation is Douglas-fir and ponderosa pine and some scattered white fir, aspen, and Gambel oak. The understory is mainly kinnikinnick, grouse whortleberry, and mountain brome.

These soils have medium potential for the production of Douglas-fir, ponderosa pine, white fir, and aspen.



Included in mapping are areas of Jaroso, Angostura, and Presa soils, which make up about 15 percent of this complex.

The Maes soil is deep and well drained. It formed in colluvium and residuum of interbedded shale and sandstone. Typically, the surface layer is light brownish gray cobbly loam and pale brown cobbly sandy loam about 7 inches thick. The next layer is mixed very pale brown very cobbly sandy loam and yellowish brown very cobbly sandy clay about 28 inches thick. The subsoil is yellowish brown very cobbly sandy clay that extends to a depth of 60 inches or more.

Permeability is moderately slow. The effective rooting depth is more than 60 inches. The available water capacity is low to moderate. Runoff is medium, and the hazard of water erosion is moderate.

The Etoe soil is deep and well drained. It formed in colluvium and residuum of interbedded shale and sandstone. Typically, the surface layer is light brownish gray cobbly loam and pale brown cobbly loam about 20 inches thick. The subsoil is yellowish brown very cobbly sandy clay that extends to a depth of 60 inches or more.

Permeability is moderately slow. The effective rooting depth is more than 60 inches. The available water capacity is low to moderate. Runoff is medium, and the hazard of water erosion is high.

The Etoe soil is deep and well drained. It formed in colluvium and residuum of interbedded shale and sandstone. Typically, the surface layer is light brownish gray cobbly loam about 26 inches thick. The subsoil is brown, very cobbly sandy clay loam that extends to a depth of 60 inches or more.

Permeability is moderate. The effective rooting depth is more than 60 inches. The available water capacity is moderate. Runoff is medium, and the hazard of water erosion is high.

capacity is low to moderate. Runoff is medium, and the hazard of water erosion is high.

The Etoe soil is deep and well drained. It formed in colluvium and residuum of interbedded shale and cobblestones. Typically, the surface layer is light brownish gray cobbly loam about 26 inches thick. The subsoil is brown very cobbly sandy clay loam that extends to a depth of 60 inches or more.

Permeability is moderate. The effective rooting depth is more than 60 inches. The available water capacity is moderate. Runoff is medium, and the hazard of water erosion is high.

Rock outcrop is scattered throughout the map unit. It is mainly highly fractured, vertical escarpments of interbedded sandstone and shale.

The dominant vegetation is Douglas-fir and ponderosa pine and some scattered white fir, aspen, and Gambel oak. The understory is mainly kinnikinnick, grouse whortleberry, and mountain brome.

The soils in this complex have medium potential for the production of Douglas-fir, ponderosa pine, and white fir. Conventional methods of harvesting trees cannot be used because of the areas of Rock outcrop, which

successive years. This system results in a balanced plant community of vigorous and productive forage plants such as western wheatgrass, blue grama, galleta, and sideoats grama. If the condition of the plant community deteriorates, the desirable forage plants decrease in number and are replaced by big sagebrush, rabbitbrush, and broom snakeweed. This deterioration generally results in accelerated soil erosion. Fencing, constructing earthen ponds, installing pipelines, brush management, range seeding, and noxious weed control are feasible in range management.

This soil has low potential for most urban uses. The flooding hazard on the lesser slopes, the moderate shrink-swell potential, the low soil strength, and the moderately slow permeability are limitations. The shrinking and swelling and the low strength of the soil can be overcome by good design and careful installation. However, the hazard of flooding is a continuing limitation in many areas. The moderately slow permeability is a limitation for septic tank absorption fields. This limitation can be overcome by increasing the size of the absorption area or by modifying the filter field.

This soil has medium potential for the development of

hazard. In some areas, the soil is subject to flooding from overflow. Dikes or diversions can be built to protect the soil from flooding.

Growing grasses and legumes or other crops that produce a high amount of residue helps to control erosion and to maintain soil tilth. Fertilization and improved water-application practices help to maintain or increase yields. Generally, all crops except legumes respond to nitrogen, and legumes respond to phosphate fertilizer. Border, furrow, sprinkler, and corrugation irrigation systems are suitable. Rotation grazing helps to increase the yield and quality of pasture. Timely harvesting improves the yield and quality of crops.

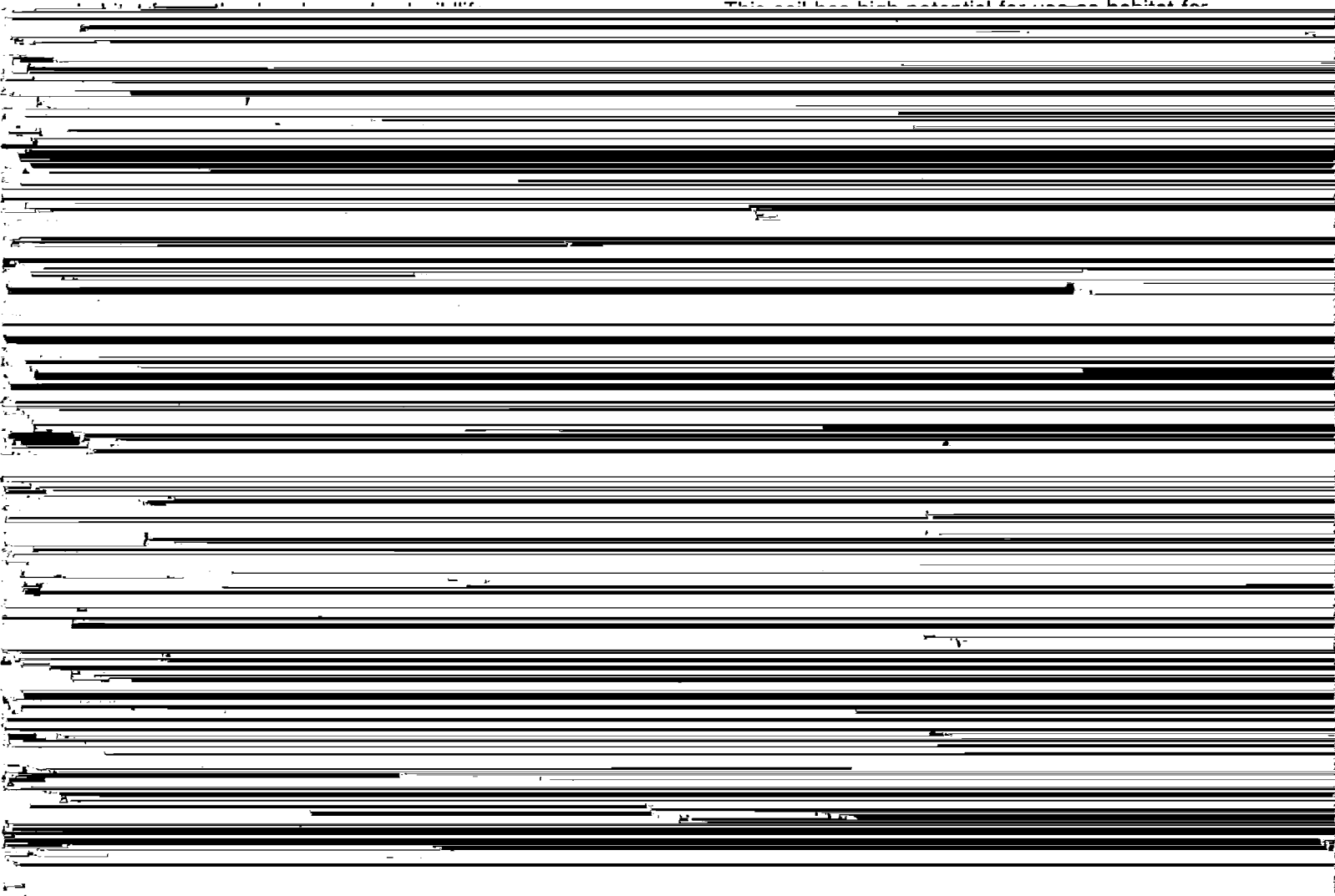
This soil has low potential for most urban areas. The hazard of flooding, the moderate shrink-swell potential, the low soil strength, and the moderately slow permeability are limitations. The shrinking and swelling and the low strength of the soil can be overcome by good design and careful installation. However, the hazard of flooding is a continuing limitation in most areas. The moderately slow permeability is a limitation for septic tank absorption fields. This limitation can be overcome by increasing the size of the absorption area or by modifying the filter field.

This soil has high potential for use as habitat for openland wildlife. It has medium potential for use as

growing season and cool nights. They limit the choice of crops and reduce crop yields. This soil is suitable for alfalfa, small grains, and cool-season grasses. Potatoes and vegetables that are adapted to the short growing season and cool nights can also be grown. Growing mainly grasses or legumes and other high residue-producing crops helps to prevent water erosion and to maintain soil tilth. Fertilization and improved water-management practices help to maintain or increase yields. Generally, all crops except legumes respond to nitrogen, and all legumes respond to phosphate fertilizer. Border, furrow, corrugation, and sprinkler irrigation systems are suitable. Rotation grazing increases the yield and quality of pasture. Timely harvesting improves the quality of crops.

This soil has medium potential for most urban uses. The hazard of flooding, the moderate shrink-swell potential, the low soil strength, and the moderately slow permeability are limitations. The shrinking and swelling and the low strength of the soil can be overcome by good design and careful installation. In some areas the flood hazard can be overcome by constructing diversions. The moderately slow permeability is a limitation for septic tank absorption fields. This limitation can be overcome by increasing the size of the absorption area or by modifying the filter field.

This soil has high potential for use as habitat for



inches thick. The substratum to a depth of 60 inches or more consists of mixed cobbles, gravel, and stones, and a small amount of sandy clay loam.

Permeability is moderate. The available water capacity

hazard, and the rock outcrops preclude most uses. Managing the Marosa soil to favor aspen increases timber production and improves the habitat for wildlife.

This complex has low potential for the development of

Included in mapping are Rock outcrop, making up about 15 percent of this association, and Cryaquolls, making up about 10 percent. It formed in colluvium and stony sandy loam. Granite bedrock is at a depth of 32 inches.

Permeability is moderately rapid. The effective rooting

Included in mapping are areas of Hernandez and Lama soils, each making up about 10 percent of this map unit.

Typically, the surface layer is light yellowish brown and brown loam about 6 inches thick. The subsoil is brown and light brown clay loam and gravelly clay loam about 24 inches thick. The substratum, to a depth of 60 inches or more, is white very gravelly sandy loam and light gray extremely gravelly sandy loam.

Permeability is moderately slow. The effective rooting depth is 60 inches or more. The available water capacity is moderate. Runoff is medium, and the hazard of water erosion is moderate.

This soil is suitable for use as woodland and for grazing by domestic livestock and wildlife. It produces

erosion is moderate, and the hazard of wind erosion is slight.

Rock outcrop consists of folded, broken, and exposed basalt flows. Runoff is rapid.

The dominant vegetation is pinyon pine and oneseed juniper. The understory is blue grama, big sagebrush, sideoats grama, and broom snakeweed.

The Montecito soil is suitable for use as woodland and for grazing by domestic livestock and wildlife. It produces pinyon pine, Rocky Mountain juniper, oneseed juniper, and understory vegetation consisting of western wheatgrass, blue grama, sideoats grama, muttongrass, and galleta.

Proper grazing of the understory vegetation improves

heaving. If stands are clear-cut, special management is needed to keep soil erosion to a minimum.

This soil has medium potential for use as habitat for woodland wildlife.

NaF—Nambe cobbly loam, 15 to 40 percent slopes. This is a very deep, well drained, moderately steep to steep soil that formed in colluvium. This soil is on mountain slopes at an elevation of 10,000 and 12,000 feet. The mean annual precipitation is 35 inches, and the mean annual temperature is 40 degrees F. The frost-free season is less than 60 days.

Included in mapping are areas of Marosa soils, which make up about 15 percent of this map unit.

Typically, the surface layer is light yellowish brown cobbly loam about 5 inches thick. The subsurface layer is light yellowish brown very cobbly sandy clay loam about 11 inches thick. The subsoil is light brown cobbly sandy clay loam and pale brown and grayish brown very cobbly sandy loam about 39 inches thick. The substratum is yellowish brown extremely gravelly sandy loam to a depth of 60 inches or more.

Permeability is moderately rapid. The effective rooting depth is more than 60 inches. The available water capacity is low to moderate. Runoff is moderate, and the hazard of water erosion is high.

The dominant vegetation is rose pussytoes, sedges, western yarrow, kinnikinnick, grouse whortleberry, and mountain brome.

This soil has low potential for timber. The native Engelmann spruce-subalpine fir forest has been replaced by sparse grasses, forbs, and sedges as a result of fire. The regeneration of coniferous trees will be extremely slow, partly because the original surface layer, as much as 8 inches thick, has been lost through erosion.

Management is restricted because of the environment and the limited potential of this eroded Nambe soil. Severe sheet and gully erosion is prevalent throughout this map unit. Increased runoff from this soil has resulted in damage to stream channels, mainly through streambank cutting and sediment deposition. Intensive management can help to stabilize this soil.

This soil has low potential for use as habitat for woodland wildlife.

NaG—Nambe cobbly loam, 40 to 80 percent

slopes at an elevation of 10,000 and 12,000 feet. The mean annual precipitation is 35 inches, and the mean annual temperature is 34 degrees F. The frost-free season is less than 60 days.

Included in mapping are areas of Marosa soils and areas of uneroded Nambe cobbly loam, which make up about 25 percent of this map unit.

Typically, the light brown cobbly loam subsoil is exposed as a result of erosion. It is 24 inches thick. The substratum to a depth of 60 inches or more is brown very stony sandy loam.

Permeability is moderately rapid. The effective rooting depth is more than 60 inches. The available water capacity is low to moderate. Runoff is very rapid, and the hazard of water erosion is very high.

The dominant vegetation is rose pussytoes, sedges, western yarrow, kinnikinnick, grouse whortleberry, and mountain brome.

This soil has low potential for timber production. The native Engelmann spruce-subalpine fir forest has been replaced by sparse grasses, forbs, and sedges as a result of fire. The regeneration of coniferous trees will be extremely slow, partly because the original surface layer, as much as 8 inches thick, has been lost through erosion.

Management is severely restricted because of the environment and the limited potential of this soil. The soil can be stabilized through intensive management; however, because of the climate, slope, and extent of erosion, stabilization will be extremely expensive and capacity is low to moderate. Runoff is rapid, and the hazard of water erosion is high.

Rock outcrop consists of scattered areas of Precambrian and igneous rock.

The dominant vegetation is Engelmann spruce and subalpine fir. The understory is mainly grouse whortleberry.

This complex has low potential for timber.

Management is severely restricted because of the very steep slopes and the rock outcrops. Conventional methods of harvesting trees cannot be used.

This complex has low potential for use as habitat for woodland wildlife.

NRG2—Nambe-Rock outcrop complex, very steep, eroded. This complex consists of small areas of an eroded Nambe soil and Rock outcrop that are so intermingled that they could not be mapped separately at the scale selected. The elevation is 10,000 to 12,000 feet. The mean annual precipitation is 35 inches, and the average annual temperature is 34 degrees F. The frost-free season is less than 60 days. About 50 percent of this complex is an eroded Nambe soil, and 25 percent is Rock outcrop.

Included in mapping are areas of uneroded Nambe cobbly loam, which make up about 10 percent of this complex, and areas of Marosa soils, which make up about 15 percent.

Typically, the subsoil is exposed as a result of erosion. The subsoil is light brown very cobbly sandy loam about

Included in mapping are soils that are similar to this Orejas soil except that they are moderately deep and calcareous. They make up about 20 percent of this map unit and are mainly in the vicinity of Cerro Mojino and Tres Orejas.

Typically, the surface layer is pale brown very stony loam about 2 inches thick. The subsoil is light brown cobbly clay loam and pinkish gray very gravelly clay loam about 12 inches thick. Basalt bedrock is at a depth of about 14 inches.

Permeability is slow. The effective rooting depth is 10 to 20 inches. The available water capacity is very low. Runoff is medium, and the hazard of water erosion is moderate.

This soil is suitable for use as woodland and for grazing by domestic livestock and wildlife. It produces pinyon pine, oneseed juniper, and understory vegetation consisting of blue grama, big sagebrush, western wheatgrass, broom snakeweed, and sideoats grama.

Proper grazing of the understory vegetation improves the plant cover, results in the accumulation of plant residue, and helps prevent soil erosion.

A management system is needed that provides periods of resting from grazing so that the key management plants can complete their growth cycle.

The Montecito soil is deep and well drained. It formed in alluvium that derived from basalt. Typically, the surface layer is light yellowish brown loam about 6 inches thick. The subsoil is brown clay loam about 24 inches thick. The substratum, to a depth of 60 inches or more, is light gray cobbly sandy loam.

Permeability is moderately slow. The effective rooting depth is 60 inches or more. The available water capacity is moderate to high. Runoff is medium. The hazard of water erosion is moderate.

These soils are suitable for use as woodland and for grazing by domestic livestock and wildlife. They produce pinyon pine, oneseed juniper, and understory vegetation consisting of blue grama, big sagebrush, sideoats grama, and muttongrass.

Proper grazing of the understory vegetation improves the plant cover, results in the accumulation of plant residue and helps prevent soil erosion.

A management system is needed that provides periods of resting from grazing so that the key management plants can complete their growth cycle. This system results in a balanced plant community of productive forage that helps to maintain the woodland.

Brush management, range seeding, installing pipelines,

Orthents are used mainly for wildlife habitat. The steep slopes, the high erosion hazard, and the low fertility of these soils are severe limitations to most uses. Orthents have an overstory of oneseed juniper and pinyon pine. The understory is mainly blue grama and sideoats grama. Badland has little vegetation. It is a major source of sediment in this survey area.

This association has low potential for use as habitat for rangeland wildlife.

OSG—Orthents-Calciorthids association, very steep. This association consists of strongly sloping to very steep soils adjacent to drainageways. These soils formed in mixed alluvium. The steep slopes were formed through a high degree of dissection on the old alluvial plain. The elevation ranges from 7,000 to 8,500 feet. The mean annual precipitation is 14 inches, and the mean annual temperature is 52 degrees F. The frost-free season is 120 to 140 days.

Orthents make up about 50 percent of this association; slopes range from 40 to 80 percent. Calciorthids make up 30 percent of the association; slopes range from 10 to 40 percent.

Included in mapping and making up about 20 percent of the association are areas of Lama and Montecito soils, mainly on the less steep slopes.

Orthents are deep and well drained. Typically, they are very gravelly or cobbly loam over very gravelly loam or very gravelly clay loam to a depth of 60 inches or more. The content of coarse fragments ranges from 50 to 65 percent.

Permeability is moderate to moderately rapid. The effective rooting depth is 60 inches or more. The available water capacity is very low. Runoff is rapid, and the hazard of water erosion is high.

Calciorthids are deep and well drained. Typically, they are gravelly loam, very gravelly loam, or very gravelly clay loam over very gravelly sandy loam or very gravelly 14 inches, and the mean annual temperature is 52 degrees F. The frost-free season is 130 to 140 days. Orthents make up about 50 percent of this association. Slopes range from 40 to 80 percent. Rock outcrop makes up 30 percent.

Included in mapping are areas of Montecito and Trampas soils, which make up about 20 percent of this association.

Orthents are deep, well drained soils on canyon slopes. They formed in material that derived from old alluvium of the Santa Fe Formation. The surface layer is very gravelly or cobbly loam about 10 inches thick. The underlying material is very gravelly loam or very gravelly clay loam to a depth of 60 inches or more. It is 5 to 15 percent calcium carbonate. The content of coarse fragments ranges from 50 to 65 percent.

Permeability varies from moderately rapid to moderate. The effective rooting depth is 60 inches or more. The available water capacity is very low. Runoff is rapid, and the water erosion hazard is high.

Rock outcrop consists of nearly vertical escarpments of basalt that form a protective cap over the alluvial sediment. The areas of Rock outcrop are along the borders of this association.

The dominant vegetation is pinyon pine and oneseed juniper. The understory is mainly blue grama and sideoats grama.

The erosion hazard, the slumping hazard, the steepness of slopes, and the stoniness restrict the use of this association.

This association is used mainly for wildlife habitat. It has low potential for the development of habitat for rangeland wildlife.

PAG—Paleboralfs-Cryochrepts-Rock outcrop association, very steep. This association consists of very steep soils and Rock outcrop at an elevation of 9,000 to 12,000 feet. The mean annual precipitation is

PbD—Penitente gravelly loam, 5 to 15 percent slopes. This is a very deep, well drained soil that formed in colluvium and residuum of acid igneous and metamorphic rock. This soil is on mountain slopes at an elevation of 12,000 to 13,000 feet. The mean annual precipitation is 35 inches, and the mean annual temperature is 30 degrees F.

Included in mapping are soils that are similar to this Penitente soil except that they are moderately deep to bedrock or have finer textured subsoil. The soils make up about 15 percent of this map unit.

Typically, the surface layer is dark grayish brown gravelly loam and very gravelly loam about 11 inches thick. The subsoil is light brown very gravelly loam and very pale brown very cobbly sandy clay loam about 25 inches thick. The substratum to a depth of 60 inches or more is light gray extremely gravelly loamy sand.

Permeability is moderately rapid. The effective rooting depth is 60 inches or more. The available water capacity is low. Runoff is medium, and the hazard of water erosion is slight.

Permeability is moderately rapid. The effective rooting depth is 60 inches or more. The available water capacity is low. Runoff is medium, and the hazard of water erosion is moderate.

This soil is suited to use as native grazing land for domestic livestock and for wildlife. Proper grazing use improves the plant cover, results in the accumulation of residue, and helps prevent soil erosion.

A management system is needed in which the seasons of grazing and resting of pasture vary in successive years. This system results in a balanced plant community of vigorous and productive forage plants such as sheep fescue, Thurber fescue, and muttongrass. If the condition of the plant community deteriorates, the proportion of desirable forage plants decreases. This deterioration generally results in accelerated soil erosion.

Constructing fences and stock trails and controlling noxious weeds to facilitate range management are feasible.

This soil has moderate potential for use as habitat for

The Petaca soil is moderately permeable. The effective rooting depth is 10 to 20 inches. The available water capacity is very low. Runoff is medium. Water erosion and wind erosion are moderate hazards.

The Prieta soil is shallow and well drained. It formed in residuum and mixed eolian sediment. Typically, the surface layer is brown stony silty clay loam about 3 inches thick. The subsoil is brown and light brown stony silty clay loam about 7 inches thick. The substratum is pink stony clay loam about 4 inches thick. Fractured,

Typically, the surface layer of the Petaca soil is brown stony loam about 2 inches thick. The underlying material is pale brown and light gray stony loam about 13 inches thick. Fractured, caliche-coated basalt bedrock is at a depth of about 15 inches. The soil is strongly calcareous and mildly alkaline to moderately alkaline.

The Petaca soil is moderately permeable. The effective rooting depth is 10 to 20 inches. Runoff is medium to rapid. The hazard of water erosion is moderate, and the wind erosion hazard is slight.

mixed alluvium on valley floors and stream terraces. Slopes are smooth and concave. Individual areas are 3 to 60 acres in size. The elevation is 6,500 to 7,500 feet. The mean annual precipitation is 13 inches. The mean annual temperature is 49 degress F. The frost-free season is 125 to 135 days.

Included with this soil in mapping are a few areas of

Typically, the surface layer is yellowish brown cobbly loam about 7 inches thick. The subsoil is yellowish brown and pale brown stony loam, very gravelly loam, and stony sandy clay loam about 47 inches thick. The substratum to a depth of 60 inches or more is light yellowish brown extremely stony sandy loam.

Permeability is moderate. The effective rooting depth

of disturbance to this soil is essential. Special management practices are necessary to facilitate the regeneration of Engelmann spruce because of frost heaving and the high intensity of light.

This soil has medium potential for use as habitat for openland and woodland wildlife.

PrG—Presa cobbly loam, 40 to 80 percent slopes. This is a very deep, well drained, very steep soil on mountaintops, side slopes, and benches. It formed in material that weathered from sandstone and shale. The elevation is 10,000 to 12,000 feet. The mean annual precipitation is 35 inches, and the mean annual temperature is 34 degrees F. The frost-free season is less than 60 days.

Included in mapping are areas of Angostura and Jaroso soils, which make up about 15 percent of this map unit.

Typically, the surface layer is yellowish brown cobbly loam about 7 inches thick. The subsoil is yellowish brown to pale brown very gravelly loam, stony loam, and stony sandy clay loam about 47 inches thick. The substratum is light yellowish brown extremely stony sandy loam to a depth of 60 inches or more.

Permeability is moderate. The effective rooting depth is more than 60 inches. The available water capacity is moderate. Runoff is moderate, and the hazard of water erosion is high.

Rock outcrop is scattered throughout this complex as nearly vertical escarpments of interbedded and highly fractured sandstone and shale.

The dominant vegetation is Engelmann spruce and subalpine fir. The understory is mainly grouse whortleberry.

The Presa soil is used for timber and for wildlife habitat. It has low potential for the production of Engelmann spruce and subalpine fir. Conventional methods cannot be used to harvest trees because of the very steep slopes and the rock escarpments, which restrict mobility of equipment. Road and trail construction is severely restricted.

This complex has medium potential for use as habitat for woodland wildlife.

PYF—Presa-Cryaquolls association, steep. This association consists of level to very steep soils on valley-train land adjacent to drainageways. The valley-train land, which resulted from glaciation, has a stairstep topography. The elevation is 10,000 to 12,000 feet. The

capacity is moderate. Runoff is slow. The hazard of water erosion is slight.

The dominant vegetation on the Presa soil is Engelmann spruce and subalpine fir. The understory is mainly grouse whortleberry. The dominant vegetation on Cryaquolls is mountain willow, alder, shrubby cinquefoil, skunkcabbage, western yarrow, sedges, and Kentucky bluegrass.

The Presa soil is used mainly for timber and for wildlife habitat. It has medium potential for the production of Engelmann spruce and subalpine fir. Conventional methods can be used to harvest trees, but the use of machinery is restricted to the drier periods.

Because the climate is severe and the erosion hazard is moderate, special emphasis on controlling the degree of disturbance to this soil is essential. Special management practices are necessary to facilitate the regeneration of Engelmann spruce because of frost heaving and the high intensity of light.

Cryaquolls are used mainly for grazing and for wildlife habitat. The cold climate limits the grazing potential of these soils. The proximity of these soils to perennial streams further limits their use. Most of the sediment from these soils is deposited in the perennial streams and seriously damages the habitat for fish.

This association has medium potential for use as habitat for openland and woodland wildlife.

RaC—Raton very stony silt loam, 2 to 8 percent

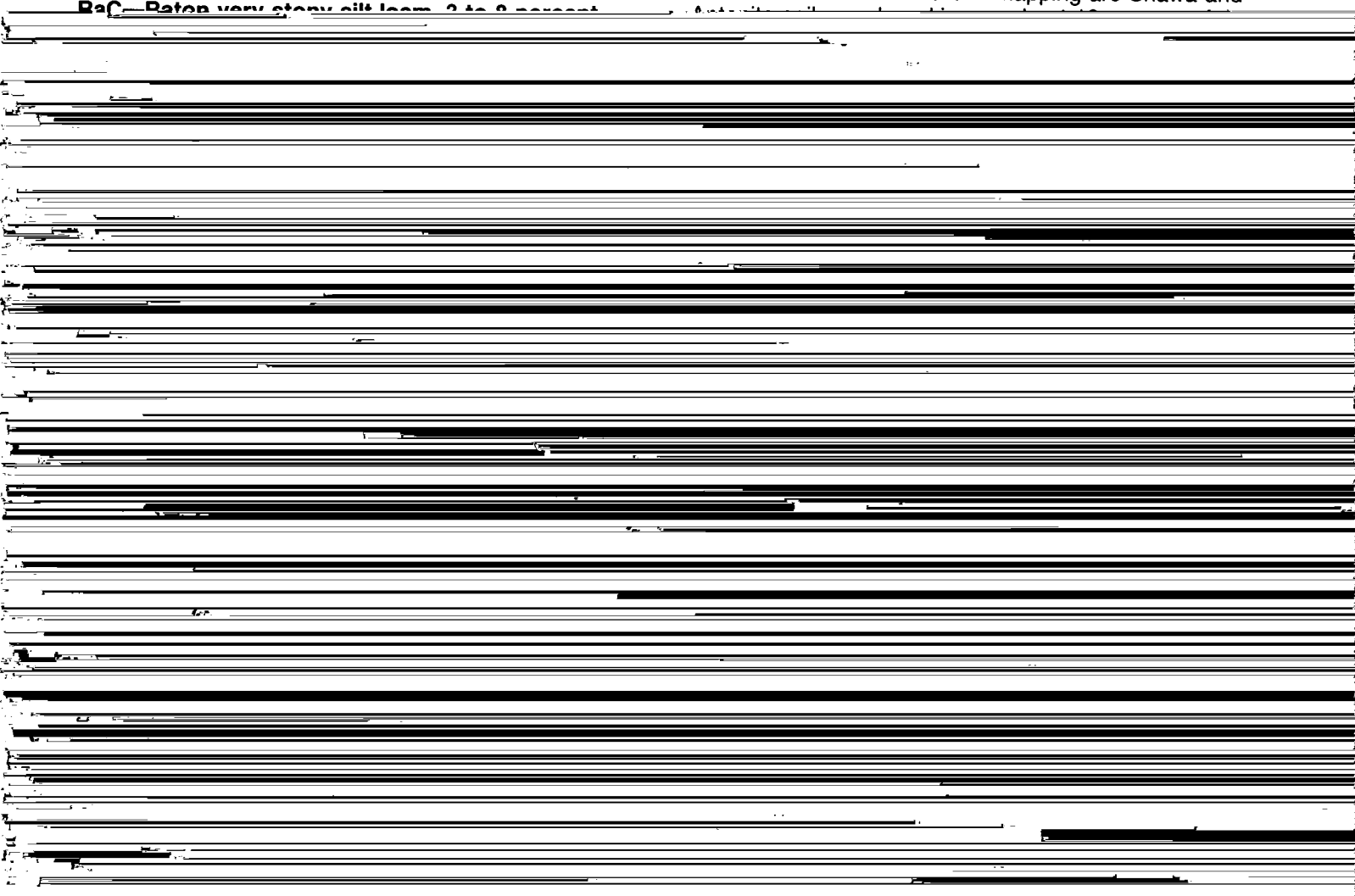
deteriorates, the desirable forage plants decrease in number and are replaced by woody plants such as oak and broom snakeweed. This deterioration generally results in accelerated soil erosion.

Access roads and stock trails are needed for livestock distribution. The use of machinery for other range management needs is not feasible because of the stony surface, the shallowness of this soil, and the rock outcrops.

This soil has medium potential for use as habitat for rangeland wildlife.

RBE—Raton-Stunner association, moderately steep. This association consists of soils on the sides of old volcanic cones at an elevation of 7,600 to 10,000 feet. In areas of the Raton soil, the mean annual precipitation is 15 inches, and the mean annual temperature is 41 degrees F. In areas of the Stunner soils, the mean annual precipitation is 11 inches, and the mean annual temperature is 44 degrees F. The frost-free season is 90 to 110 days. Raton cobbly silt loam that has 8 to 40 percent slopes makes up about 40 percent of this association, and Stunner cobbly loam that has 3 to 5 percent slopes makes up about 25 percent. Rock outcrop makes up 15 percent of this association. The strongly sloping to steep Raton soil is on side slopes. The gently sloping Stunner soil is on smooth foot slopes.

Included with these soils in mapping are Shawa and



A management system is needed in which the seasons of grazing and resting of pasture vary in successive years. This system results in a balanced plant community of vigorous and productive forage

RPG—Rock outcrop-Penitente complex, very steep. This complex is about 60 percent Rock outcrop and 30 percent Penitente cobbly loam. The Penitente soil is in widely scattered pockets surrounded by areas

capacity is very low. Runoff is rapid. The hazard of water erosion is moderate, and the wind erosion hazard is slight.

The Raton soil is suitable for use as woodland and for grazing use for domestic livestock and wildlife. It produces pinyon pine, Rocky Mountain juniper, oneseed juniper, and understory vegetation consisting of mountain muhly, muttongrass, Arizona fescue, and western wheatgrass. Proper grazing of the understory vegetation

material on old dunes. Slopes are complex. The elevation is 6,800 to 7,200 feet. The mean annual precipitation is 13 inches, and the mean annual temperature is 43 degrees F. The frost-free season is 130 to 140 days.

Included with this soil in mapping are areas of Vibo, Petaca, and Manzano soils. Also included are a few small areas of barren sand dunes. Included in the Ojo Caliente area are some small areas of stratified sand

Runoff is slow, and the hazard of water erosion is slight. These soils are suitable for use as woodland and for

The dominant vegetation is ponderosa pine. The understory is mainly Gambel oak, mountainmahogany, and mountain muhly.

These soils are used mainly for timber and for wildlife habitat.

The Sabe soil has low potential for the production of ponderosa pine, and the Mirand soil has medium potential. On slopes of more than 40 percent, conventional methods cannot be used to harvest trees. The low available water capacity of the Sabe soil restricts seedling survival and reduces the production of ponderosa pine.

This complex has medium potential for use as habitat for woodland wildlife.

of major drains. Sedillo gravelly loam that has slopes of 9 to 15 percent makes up about 45 percent of the association. It is on narrow ridgetops and on the upper part of the slopes of narrow, extremely dissected ridges. Orthents that have slopes of 30 to 45 percent make up about 35 percent of the association. These soils are in extremely dissected areas. The elevation is 6,800 to 8,000 feet. The mean annual precipitation is 12 inches. The mean annual temperature is 49 degrees F, and the frost-free season is 125 to 135 days.

Included in mapping are Silva, Manzano, Fernando, and Hernandez soils, each making up about 5 percent of the association.

The Sedillo soil is deep and well drained. It formed in

7,500 feet. The mean annual precipitation is 11 inches, and the mean annual temperature is 47 degrees F. The frost-free season is 125 to 135 days. Sedillo very gravelly loam makes up about 55 percent of this association, and Silva loam makes up about 25 percent

SgC—Servilleta-Prieta complex, 1 to 5 percent slopes. This complex consists of small areas of Servilleta and Prieta soils that are so intermingled that they could not be separated in mapping at the scale selected. These soils are nearly level and gently sloping

plant community of vigorous and productive forage plants such as western wheatgrass and blue grama. If the condition of the plant community deteriorates, the desirable plants decrease in number and are replaced by big sagebrush, broom snakeweed, and cacti. This deterioration generally results in accelerated soil erosion.

In managing range, installing pipelines, constructing fences, brush management, and range seeding are feasible on the Servilleta soil. The use of machinery, except in constructing trails, is not feasible on the Prieta soil.

This complex has medium potential for the development of habitat for rangeland wildlife.

ShB—Shawa clay loam, 0 to 3 percent slopes. This is a deep, well drained, level and nearly level soil. It formed in alluvium on playa bottoms along the Rio de los Pinos. Slopes are smooth and concave. The elevation is 7,500 to 8,500 feet. The mean annual precipitation is 11 inches, and the mean annual temperature is 43 degrees F. The frost-free season is 80 to 110 days.

Included with this soil in mapping are Luhon and Stunner soils, each making up about 5 percent of the map unit.

Typically, the upper part of the surface layer is dark grayish brown clay loam and very dark grayish brown silty clay loam about 16 inches thick, and the lower part is dark brown clay loam about 14 inches thick. The underlying material is brown, light brown, and pink clay loam to a depth of 60 inches or more.

Permeability is moderate. The effective rooting depth is 60 inches or more. The available water capacity is high. Runoff is very slow, and the hazard of water erosion is slight.

This soil is suited to irrigated hay and pasture, to use as native grazing land, and to the development of wildlife habitat. It provides forage for domestic livestock and wildlife. Proper grazing use improves the plant cover, results in the accumulation of residue, and helps prevent erosion.

A management system is needed in which the seasons of grazing and resting of pasture vary in successive years. This system results in a balanced plant community of vigorous and productive forage plants such as western wheatgrass, blue grama, and fourwing saltbush. If the condition of the plant community

This soil can produce high quality range plants to support habitat for the pronghorn antelope and other rangeland wildlife.

SmB—Silva loam, 0 to 2 percent slopes. This is a deep, well drained, level to nearly level soil. It formed in mixed alluvium and eolian sediment on upland fans and ridges throughout the survey area. Slopes are smooth and convex. The elevation is 6,500 to 7,500 feet. The mean annual precipitation is 12 inches, and the mean annual temperature is 49 degrees F. The frost-free season is 125 to 135 days.

Included with this soil in mapping are Fernando and Sedillo soils, which make up about 10 percent of this map unit.

Typically, the surface layer is brown loam about 5 inches thick. The subsoil is brown clay loam about 25 inches thick. The substratum is pink clay loam to a depth of 60 inches or more.

Permeability is slow. The effective rooting depth is 60 inches or more. The available water capacity is high. Runoff is slow. The hazard of water erosion is slight, and the hazard of wind erosion is moderate.

The major limitations to growing cultivated crops are the short growing season and cool nights, which limit the choice of crops and reduce crop yields. This soil is suitable for alfalfa, small grains, and cool-season grasses. Potatoes and vegetables that are adapted to the short growing season and cool nights also can be grown.

Growing mainly grasses or legumes or other high residue-producing crops helps to prevent water and wind erosion to maintain soil tilth. Fertilization and improved water-management practices help to maintain or increase yields. Generally, all crops except legumes respond to nitrogen, and all legumes respond to phosphate fertilizer. Border, furrow, corrugation, and sprinkler irrigation systems are suitable. Rotation grazing increases the yield and quality of pasture. Timely harvesting improves the quality of crops.

This soil has medium potential for most urban uses. Low strength and the high shrink-swell potential and slow permeability in the subsoil are limitations. The shrinking and swelling and the low strength can be overcome by good design and careful installation. The slow permeability, which is a limitation to the use of this soil for septic tank absorption fields, can be overcome

annual precipitation is 12 inches, and the mean annual

community of vigorous and productive forage plants such as western wheatgrass, blue grama, and scurfpea. If the

The Silva soil is deep and well drained. It formed in loam about 20 inches thick. The substratum is light

The hazard of water erosion is moderate, and the hazard of wind erosion is slight.

These soils are suited to use as native grazing land for domestic livestock and wildlife. Proper grazing use improves the plant cover, results in the accumulation of residue, and helps prevent soil erosion.

A management system is needed in which the seasons of grazing and resting of pasture vary in successive years. This system results in a balanced plant community of vigorous and productive forage plants such as western wheatgrass, blue grama, and winterfat. If the condition of the plant community deteriorates, the desirable forage plants decrease in number and are replaced by broom snakeweed, threeawn, and rubber rabbitbrush. This deterioration can result in accelerated soil erosion.

Constructing fences, access roads, and earthen ponds, installing pipelines, brush management, and range seeding are feasible in managing range.

This association has medium potential for use as habitat for rangeland wildlife.

SVC—Stunner-Travelers association, gently sloping. This association consists of soils on uplands. The elevation is 7,600 to 8,500 feet. The mean annual precipitation is 11 inches, and the mean annual temperature is 44 degrees F. The frost-free season is 90 to 110 days. Stunner cobbly loam and Travelers very stony loam each make up about 35 percent of the association, and Luhon gravelly clay loam makes up about 15 percent. The nearly level Stunner soil and the gently sloping Luhon soil are on side slopes between basalt ridges. The gently sloping to moderately sloping Travelers soil is on basalt ridges and breaks.

Included in mapping are Shawa soils, which make up about 10 percent of this map unit, and Rock outcrop, which makes up about 5 percent.

The Stunner soil is deep and well drained. It formed in mixed alluvium and eolian sediment. Typically, the surface layer is brown cobbly loam about 4 inches thick. The subsoil is brown and light brown clay loam about 15 inches thick. The substratum to a depth of 60 inches or more is pink loam and pinkish white gravelly loam.

The Stunner soil is moderately permeable. The effective rooting depth is 60 inches or more. The available water capacity is high. Runoff is slow. The hazards of water and wind erosion are slight.

The Travelers soil is shallow and well drained. It formed in residuum of basalt and in eolian sediment. Typically, the surface layer is brown very stony loam about 4 inches thick. The substratum is pale brown very stony clay loam about 5 inches thick. Fractured, lime-coated basalt is at a depth of 13 inches.

The Travelers soil is moderately permeable. The surface layer is brown gravelly clay loam about 6 inches thick. The underlying material is pale brown clay loam to a depth of 60 inches or more. The soil material below the surface layer is strongly calcareous.

The Luhon soil is moderately permeable. The effective rooting depth is 60 inches or more. The available water capacity is moderate to high. Runoff is slow. The hazards of water and wind erosion are slight.

These soils are suited to use as native grazing land. Proper grazing use improves the plant cover, results in the accumulation of residue, and helps prevent soil erosion.

A management system is needed in which the seasons of grazing and resting of pasture vary in successive years. This system results in a balanced plant community of vigorous and productive forage plants such as western wheatgrass, blue grama, and winterfat. If the condition of the plant community deteriorates, the desirable forage plants decrease in number and are replaced by broom snakeweed, Douglas rabbitbrush, and threeawn. This deterioration generally results in accelerated soil erosion.

Installing pipelines, constructing fences and earthen ponds, brush management, and range seeding are feasible in managing grazing land on the Stunner soil. Access roads and trails should be constructed to help distribute livestock on the Travelers soil; however, the use of machinery for other purposes is not feasible on this soil because of the surface stones and the shallowness of the soil.

This association has medium potential for use as habitat for rangeland wildlife.

TeB—Tenorio loam, 0 to 3 percent slopes. This is a deep, well drained, level to nearly level soil. It formed in mixed alluvium on valley sides. Slopes are smooth and convex. The elevation is 7,000 to 8,000 feet. The mean annual precipitation is 13 inches, and the mean annual temperature is 48 degrees F. The frost-free season is 120 to 130 days.

Included with this soil in mapping are small areas of Fernando soils, which make up about 5 percent of this unit. Also included are areas of Tenorio soils that have a sandy loam subsoil.

Typically, the surface layer is brown loam about 3 inches thick. The upper part of the subsoil is dark brown loam 10 inches thick, and the lower part is dark brown extremely gravelly sandy loam 5 inches thick. The substratum is yellowish brown extremely gravelly sand to a depth of 60 inches or more.

Permeability is moderate in the subsoil and very rapid in the substratum. The available water capacity is very low. The effective rooting depth is 60 inches or more;

native vegetation is big sagebrush, blue grama, sand dropseed, and western wheatgrass.

The major irrigated crops are alfalfa, small grains, and cool-season grasses. Potatoes and vegetables that are adapted to the short growing season and cool nights can be grown.

The short growing season and cool nights and the very low available water capacity of the soil limit the choice of crops and pasture plants and reduce crop yields.

Growing grasses and legumes or other high-residue producing crops and leaving the residue on the surface helps to prevent wind erosion. If low-residue producing crops are grown, a cover crop or manure is needed to

the condition of the plant community deteriorates, the desirable forage plants decrease in number and are replaced by broom snakeweed, big sagebrush, and cacti. This deterioration can result in accelerated soil erosion.

Installing pipelines, constructing fences and earthen ponds, range seeding, and brush management are feasible in managing range on these soils.

This soil has high potential for most urban uses. However, seepage from septic tank filter fields can contaminate the underground water.

This soil has medium potential for use as habitat for rangeland wildlife.

TrF—Trampas cobbly sandy loam, 15 to 40 percent

substratum to a depth of 60 inches or more is reddish yellow stony sandy clay loam.

Permeability is slow. The effective rooting depth is 60 inches or more. The available water capacity is high. Runoff is medium, and the hazard of water erosion is moderate.

The dominant vegetation is ponderosa pine. The understory is mainly Arizona fescue and mountain muhly.

This soil has medium potential for the production of ponderosa pine. In managing woodland, the canopy should not be opened to a level that results in serious competition from Gambel oak. Equipment limitations are moderate.

This soil has medium potential for use as habitat for openland and rangeland wildlife.

TTF—Trampas-Diamante association, steep. This association consists of very steep soils on terrace slopes adjacent to drainageways. The elevation is 7,500 to 9,800 feet. The mean annual precipitation is 22 inches on the Trampas soil and 24 inches on the Diamante soil

and mountain muhly. The dominant vegetation on the Diamante soil is Douglas-fir and ponderosa pine and some scattered white fir, aspen, and limber pine. The understory is mainly Gambel oak, kinnikinnick, mountain muhly, and Arizona fescue.

These soils are used for timber and for wildlife habitat.

The Trampas soil has medium potential for the production of ponderosa pine. The Diamante soil has medium potential for the production of Douglas-fir, ponderosa pine, and white fir. The major limitations to the production or harvest of timber are the very steep slopes, which severely restrict the mobility of most equipment. Conventional harvesting methods should not be used because they cause excessive soil disturbance and severe erosion. The low available water capacity of the surface layer of the Diamante soil limits seedling survival.

These soils have low potential for the development of habitat for woodland wildlife.

TVC—Travelers very stony loam, 1 to 8 percent

Practices to facilitate grazing management, such as access roads and trails, can be constructed to help distribute livestock. The use of machinery for other purposes is not feasible because the soil is stony and shallow.

This soil has medium potential for use as habitat for rangeland wildlife.

UTG—Ustorthents-Trampas complex, very steep. This complex consists of small areas of Ustorthents and Trampas cobbly loam that are so intermingled that they could not be mapped separately at the scale selected. These soils are on terrace slopes adjacent to natural drainageways. Slopes are 40 to 80 percent. The elevation is 8,000 to 9,800 feet. The mean annual precipitation is 22 inches, and the mean annual temperature is 45 degrees F. The frost-free season is 100 to 120 days. Ustorthents make up about 50 percent of this complex, and Trampas cobbly loam makes up 30 percent.

Included in mapping are Jaroso and Lama soils, which make up about 20 percent of this complex.

Ustorthents are deep and well drained. They formed in gravelly alluvium. The soil is gravelly loam, very gravelly loam, or very gravelly clay loam or cobbly loam to a depth of 60 inches or more. The content of coarse fragments ranges from 25 to 60 percent.

Permeability is moderately rapid to moderate. The

This complex has low potential for use as habitat for woodland wildlife.

VbD—Vibo sandy loam, 3 to 10 percent slopes. This is a deep, well drained soil that formed in mixed alluvium. The elevation is 6,400 to 7,400 feet. The mean annual precipitation is 13 inches, and the mean annual temperature is 50 degrees F. The frost-free season is 125 to 135 days. Drainage from this soil contributes to the Rio Grande watershed.

Included in mapping and making up about 20 percent of this unit are Silva soils.

Typically, the surface layer is brown sandy loam about 2 inches thick. The subsoil is brown sandy clay loam about 16 inches thick. The substratum is light brown sandy loam and brown loamy sand to a depth of 60 inches or more. The soil is calcareous below a depth of 10 inches.

Permeability is moderate. The effective rooting depth is 60 inches or more. The available water capacity is moderate to high. Runoff is slow. The hazards of water and wind erosion are moderate.

This soil is suitable for use as woodland and for grazing by domestic livestock and by wildlife. It produces pinyon pine, Rocky Mountain juniper, oneseed juniper, and understory vegetation of sand dropseed, Indian

The Wellsville soil is deep and well drained. It formed in colluvium and alluvium that derived from acid igneous rock.

Typically, the surface layer is dark grayish brown gravelly loam about 8 inches thick. The subsoil is dark grayish brown and brown gravelly clay loam and gravelly sandy clay loam about 34 inches thick. The substratum is light brown very gravelly sandy clay loam to a depth of 60 inches or more.

Permeability is moderately slow. The available water capacity is moderate to high. The effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is moderate.

These soils are suited to use as native grazing land for domestic livestock and for wildlife.

Proper grazing use improves the plant cover, results in the accumulation of residue, and helps prevent soil erosion. A management system is needed in which the seasons of grazing and resting of pastures vary in successive years. This system results in a balanced plant community of vigorous and productive forage plants such as Arizona fescue, mountain muhly, prairie junegrass, and bottlebrush squirreltail. If the condition of

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 avoid 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 behavior characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

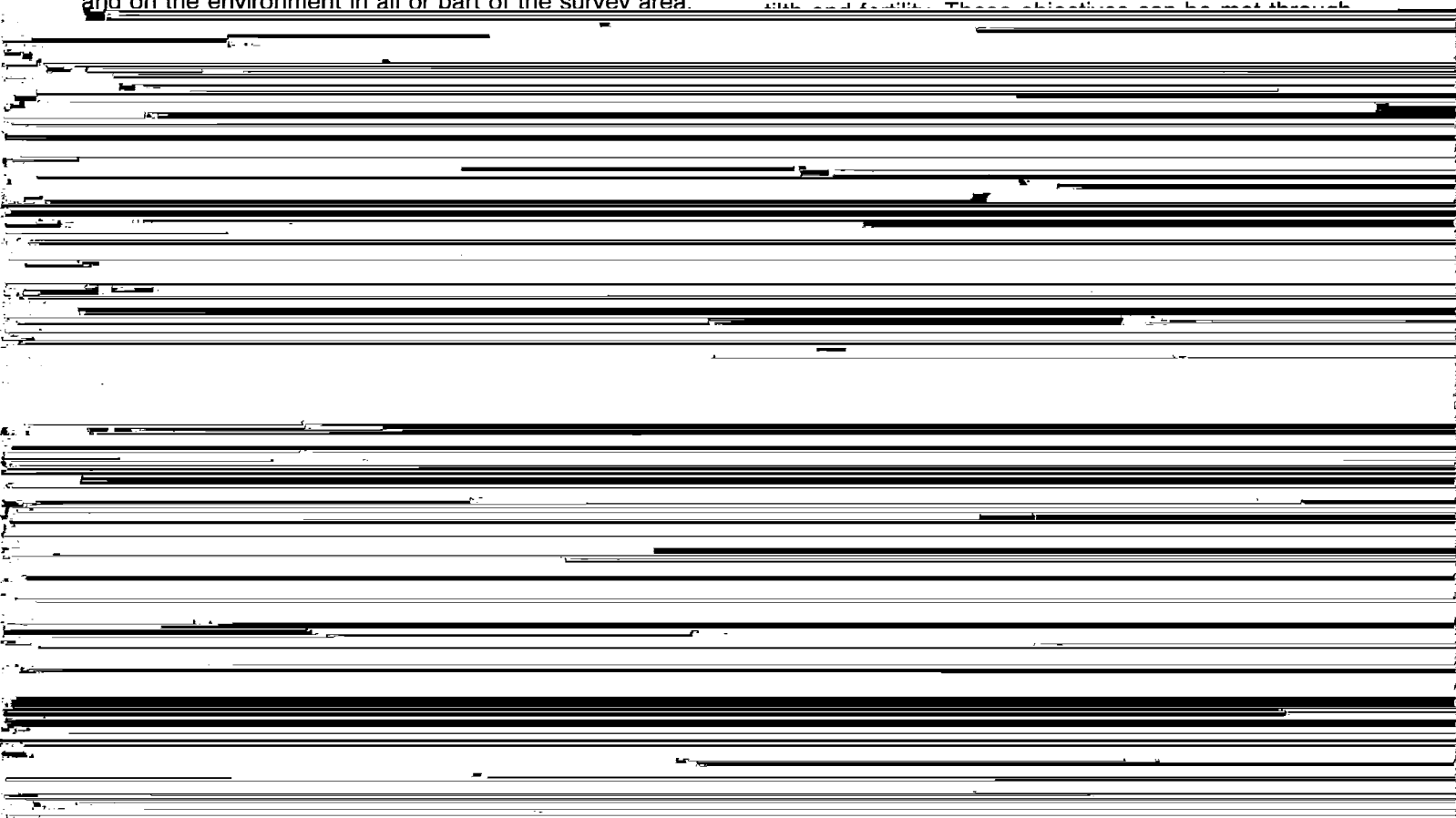
Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreation facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

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. in the description of each soil under "Detailed soil map units." Specific information can be obtained from the local office of the Soil Conservation Service or the Cooperative Extension Service.

Only a small percentage of the land in the Taos area is used for cultivated crops. Most of the cropland is on flood plains, terraces, and alluvial fans along streams that originate in the Sangre de Cristo Mountains. These streams provide water for irrigation. Other irrigated cropland is in an area between the foothills of the Sangre de Cristo Mountains and Ute Mountain in the northern part of the survey area. Here the water is supplied by deep wells.

The main crops are barley, alfalfa, and irrigated pasture. A few areas are used for gardens and orchards. The survey area has potential for the production of potatoes and vegetable crops such as lettuce, green peas, and carrots.

Successful, long-term cultivation of any soil depends on managing that soil according to its capabilities and limitations for cropland use and on providing adequate water to supply crop needs. Management objectives that can help to accomplish this include controlling wind and water erosion, conserving moisture, and maintaining soil



Among the effective measures used to conserve water are minimum tillage, field windbreaks or barriers, land shaping or leveling, lining irrigation ditches, and timely tillage. Irrigation water can be conserved for crops by using a well designed irrigation system and by applying irrigation water uniformly to meet crop needs without overirrigating. Water is wasted and nutrients are leached below the root zone if more water is applied to a soil than the soil is capable of holding. Tenorio soils have sand and gravel at a depth of 12 to 20 inches, and Loveland soils have sand and gravel at a depth of 20 to 40 inches. These soils are subject to leaching if too much water is applied.

Wind erosion is a hazard on Fernando and Hernandez soils. This hazard can be minimized by growing high residue-producing crops and leaving the residue on the surface in winter and spring.

Water erosion is a hazard on Fernando clay loam, 3 to 5 percent slopes; on Fernando clay loam, 5 to 7 percent slopes; and on Manzano clay loam, 3 to 5 percent slopes. Growing grasses and legumes or close-grown

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 3 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Soil Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils.

rangeland

Henry W. Wall, Jr., range conservationist, Soil Conservation Service, helped prepare this section.

About 70 percent of the Taos area is range and grazable woodland. More than 80 percent of the farm income is derived from the production of cattle and sheep. Cow-calf-yearling is the dominant type of livestock operation, however, many sheep are raised for

closely the existing community resembles the potential community, the better the range condition. Range condition is an ecological rating only. It does not have a specific meaning that pertains to the present plant

normal winds; *moderate*, that some trees will be blown down during periods of excessive soil wetness and strong winds; and *severe*, that many trees are blown down during periods of excessive soil wetness and

is most nearly typical of woodland in which the production of wood crops is highest.

recreation

The survey area supports an expanding all-season recreation industry, which is based on tourism and resident participation in a wide variety of outdoor recreation activities. The demand for recreation uses of land and water exceeds their availability. More and more land is being converted to recreation uses.

The soils of the survey area are rated in table 6 according to limitations that affect their suitability for recreation. The ratings 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 sewerlines. The capacity of the soil to absorb septic tank effluent and the

during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and trails for hiking, horseback riding, and bicycling should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

wildlife habitat

Edwin A. Swenson, biologist, Soil Conservation Service, helped

selecting soils that are suitable for creating, improving, or maintaining specific elements of wildlife habitat; in determining the intensity of management needed for each element of the habitat; and in determining areas that are suitable for acquisition to manage for wildlife.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* means that the element of wildlife habitat or the kind of habitat is easily created, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected if the soil is used for the designated purpose. A rating of *fair* means that the element of wildlife habitat or kind of habitat can be created, improved, or maintained in most places. Moderate intensity of management and fairly frequent attention are required for satisfactory results. A rating of *poor* means that limitations are severe for the designated element or kind of wildlife habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and requires intensive effort. A rating of *very poor* means that restrictions for the element of wildlife habitat or kind of wildlife are very severe, and that unsatisfactory results can be expected. Wildlife habitat is impractical or even impossible to create, improve, or maintain on soils having such a rating.

The elements of wildlife habitat are briefly described in the following paragraphs.

Grain and seed crops are seed-producing annuals used by wildlife. Examples are wheat, oats, rye, and barley. The major soil properties that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations.

Grasses and legumes are domestic perennial grasses and herbaceous legumes that are planted for wildlife food and cover. Examples are fescue, wheatgrass

Douglas-fir and white fir, maple, boxelder, aspen, willow, and juniper. Major soil properties that affect the growth of coniferous plants are depth of the root zone, available water capacity, and wetness.

Shrubs are bushy woody plants that produce fruits, buds, twigs, bark, or foliage used by wildlife or that provide cover and shade for some species of wildlife. Examples are mountainmahogany, oak brush, fourwing saltbush, Apacheplume, winterfat, elder, redosier dogwood, shrubby cinquefoil, black sagebrush, and big sagebrush. Major soil properties that affect the growth of shrubs are depth of the root zone, available water capacity, salinity, and moisture.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites, exclusive of submerged or floating aquatics. They produce food or cover for wildlife that use wetland as habitat. Examples of wetland plants are smartweed, skunkcabbage, white clover, rushes, sedges, reeds, and cattail. Major soil properties affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness.

Shallow water areas are bodies of surface water that have an average depth of less than 5 feet and are useful to wildlife. They can be naturally wet areas, or they can be created by dams or levees or by water-control devices in marshes or streams. Examples are muskrat marshes, waterfowl feeding areas, beaver ponds, and other shallow wildlife ponds. Major soil properties affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. The availability of a dependable water supply is essential if water areas are to be developed.

The kinds of wildlife habitat are briefly described in the following paragraphs.

Openland habitat consists of cropland and pasture

thrasher, coyote, jackrabbit, prairie dog, marsh hawk, and turkey vultures.

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. The ratings are given in the following tables: Building site development, Sanitary facilities, Construction materials, and Water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not 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

Table 8 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, and local roads and streets. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in

flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock or to a cemented pan, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost action potential, and depth to a high water table affect the traffic supporting capacity.

sanitary facilities

Table 9 shows the degree and the kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that

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. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

Table 9 gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, depth to bedrock or to a cemented pan, flooding, large stones, and content of organic matter.

Excessive seepage due to rapid permeability of the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive

during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover

more than 25 percent. They are wet, and the depth to the water table is less than 1 foot. They may have layers

soil properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are

adopted by the American Association of State Highway and Transportation Officials (*1*).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils

The estimates of grain-size distribution, liquid limit, and plasticity index are rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points)

change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the

4. Clays, silty clays, clay loams, and silty clay loams that are more than 35 percent clay. These soils are moderately erodible. Crops can be grown if measures to control wind erosion are used.

5. Loamy soils that are less than 18 percent clay and less than 5 percent finely divided calcium carbonate and

slopes, or by tides. Water standing for short periods after rainfall or snowmelt and water in swamps and marshes are not considered flooding.

Table 14 gives the frequency and duration of flooding and the time of year when flooding is most likely.

Frequency, duration, and probable dates of occurrence

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 most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage mainly to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as

total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

engineering test data

Table 15 shows laboratory test data for several pedons sampled at carefully selected sites in the survey area. The pedons are typical of the series and are

classification of the soils

[redacted] soil classification used by the National [redacted] mineral content, temperature regime, depth of the root

colder than Amalia soils, and have a udic moisture regime.

Typical pedon of Amalia very gravelly loam, in an area of Amalia-Manzano association, steep, about 3.1 miles northeast of Amalia on the north side of Ute Creek, 200 feet north of road:

A1—0 to 3 inches; brown (7.5YR 4/2) very gravelly loam, dark brown (7.5YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many fine roots; many fine interstitial pores; 45 percent fine and medium gravel

calcareous or strongly calcareous and mildly alkaline or moderately alkaline.

Angostura series

The Angostura series consists of deep, well drained soils. These soils formed on mountainsides in colluvium and residuum of shale and acid igneous rock. Slopes range from 5 to 80 percent. The elevation is 9,000 to 11,000 feet. The mean annual precipitation is 30 inches, and the mean annual temperature is 36 degrees F.

Some pedons have a thin A1 horizon. The A2 horizon has hue of 7.5YR and 10YR and value of 6 or 7, dry, and 4 or 5, moist.

The Bt horizon is pale brown or light yellowish brown. Rock fragments make up 50 to 65 percent of the B&A and Bt horizons.

Antonito series

The Antonito series consists of moderately deep, well drained soils. These soils formed on mesas and basalt flows in material that weathered from basalt and in eolian material. Slopes range from 1 to 5 percent. The elevation is 7,500 to 8,000 feet. The mean annual precipitation is 11 inches, and the mean annual temperature is 44 degrees F.

Calcareous material is at a depth of 6 to 20 inches. The solum is 12 to 28 inches thick. Bedrock is at a depth of 20 to 40 inches.

The A horizon has hue of 10YR; value of 4 or 5, dry, and 3 or 4, moist; and chroma of 2 through 4. It is loam, sandy loam, or silt loam. Consistency is soft or slightly hard.

The B2t horizon has hue of 7.5YR or 5YR; value of 4 through 6, dry, and 3 or 4, moist; and chroma of 2 through 4. It is clay loam or silty clay loam. The structure is subangular blocky or prismatic. The reaction is mildly alkaline to strongly alkaline.

The Cca horizon has hue of 10YR through 5YR. It is moderately calcareous or strongly calcareous and moderately alkaline or strongly alkaline.

Cerro series

strongly calcareous; moderately alkaline; gradual smooth boundary.

C2—36 to 60 inches; pale brown (10YR 6/3) stratified clay loam, silty clay loam, sandy clay loam, silt loam, and very fine sandy loam, dark brown (10YR 4/3) moist; many medium distinct grayish brown (2.5YR 5/2) and very dark gray (N 3/0) mottles, moist; massive; very hard, friable, slightly sticky and slightly plastic; strongly calcareous; moderately alkaline.

In most years, these soils have a water table within a

Derecho series

The Derecho series consists of deep, well drained soils. These soils formed in colluvium and residuum of consolidated sandstone and shale on south-facing slopes of mountains and canyons. Slopes range from 15 to 80 percent. The elevation is 8,000 to 10,500 feet. The mean annual precipitation is 25 inches, and the mean annual temperature is 40 degrees F.

Derecho soils are similar to Etoe and Maes soils. They are near Angostura, Jaroso, and Trampas soils. Etoe

C—51 to 60 inches; grayish brown (10YR 5/2) extremely stony sandy clay loam, dark grayish brown (10YR 4/2) moist; massive; hard, firm, sticky and plastic; 60 thin clay films on faces of peds; 50 percent gravel; moderately calcareous; fine irregular carbonate concretions; moderately alkaline; clear smooth

medium roots; many fine pores; 75 percent gravel and 10 percent cobbles; slightly acid; clear wavy boundary.

B21t—31 to 40 inches; light brown (7.5YR 6/4) very gravelly sandy clay, strong brown (7.5YR 5/6) moist; strong fine and very fine subangular blocky structure; very hard, very firm, sticky and plastic; few very fine and fine roots; common very fine pores; many moderately thick clay films on faces of peds; 50 percent gravel; medium acid; gradual wavy boundary.

B22t—40 to 60 inches; light brown (7.5YR 6/4) extremely gravelly sandy clay, brown (7.5YR 5/4) moist; weak medium and fine subangular blocky structure; very hard, very firm, sticky and plastic; few very fine pores; thin patchy clay films on faces of peds; 50 percent gravel and 15 percent cobbles; medium acid.

The solum is 45 to 85 percent coarse fragments.

The A1 horizon is sandy loam or loam.

The B2t horizon is light yellowish brown or light brown. It is sandy clay or clay.

Ess series

The Ess series consists of deep, well drained soils. These soils formed on mountainsides in acid igneous and metamorphic alluvium and colluvium. Slopes range from 15 to 45 percent. The elevation is 9,000 to 10,500 feet. The mean annual precipitation is 25 inches, and the mean annual temperature is 38 degrees F.

Ess soils are similar to and are near Wellsville soils. Wellsville soils are less than 35 percent coarse fragments in the control section.

Typical pedon of Ess gravelly loam, in an area of Wellsville-Ess association, moderately steep, about 10 miles southeast of Amalia, 1 mile north of Costilla Canyon Road:

A1—0 to 8 inches; brown (7.5YR 4/2) gravelly loam, dark brown (7.5YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; many very fine and fine roots; many fine tubular pores; 30 percent gravel; mildly alkaline; clear smooth boundary.

B21t—8 to 16 inches; brown (7.5YR 4/4) very gravelly sandy clay loam, dark brown (7.5YR 3/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many fine tubular pores; few thin discontinuous clay films on peds and rock fragments; 50 percent gravel; mildly alkaline; clear smooth boundary.

B22t—16 to 33 inches; brown (7.5YR 5/4) very gravelly sandy clay loam, dark brown (7.5YR 4/4) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few fine tubular pores; few thin continuous clay films on peds and rock fragments; 40 percent gravel; mildly alkaline; clear smooth boundary.

C—33 to 60 inches; brown (7.5YR 5/4) very gravelly sandy loam, dark brown (7.5YR 4/4) moist; single grain; loose, dry or wet; few very fine and fine roots; many fine interstitial pores; 55 percent gravel; mildly alkaline.

The A horizon has hue of 7.5YR or 10YR and value of 4 or 5, dry, and 2 or 3, moist. It is gravelly loam or gravelly clay loam. Rock fragments make up 15 to 50 percent of the A horizon.

The B horizon has hue of 7.5YR or 10YR; value of 4 through 6, dry; and chroma of 2, 3, or 4.

The C horizon has hue of 10YR or 7.5YR and value of 5 or 6, dry, and 4 or 5, moist. It ranges from gravelly or cobbly clay loam to very gravelly or cobbly loamy sand.

Weathered bedrock is at a depth of more than 40 inches to more than 60 inches. Rock fragments make up 35 to 65 percent of the control section.

Etoe series

The Etoe series consists of deep, well drained soils. These soils formed on mountainsides in colluvium and residuum of sandstone and shale. Slopes range from 0 to 80 percent. The elevation is 8,000 to 10,500 feet. The mean annual precipitation is 30 inches, and the mean annual temperature is 40 degrees F.

Etoe soils are similar to Marosa soils. They are near Maes soils. Marosa soils do not have a mixed A and B horizon. Maes soils are clayey-skeletal.

Typical pedon of Etoe cobbly loam, in an area of Maes-Etoe complex, 15 to 40 percent slopes, 4 miles east of U.S. Hill:

O1—1 inch to 0; decomposing needles, twigs, and leaves.

A21—0 to 9 inches; pale brown (10YR 6/3) cobbly loam, brown (10YR 4/3) moist; moderate fine and medium granular structure; soft, friable; common very fine and fine and few medium roots; many very fine and fine interstitial pores; 20 percent cobbles; neutral; clear smooth boundary.

A22—9 to 20 inches; pale brown (10YR 6/3) cobbly loam, brown (10YR 5/3) moist; weak very fine granular structure; soft, friable; common very fine and medium roots; many very fine and fine interstitial pores; 15 percent gravel and 15 percent cobbles; neutral; clear smooth boundary.

A&B—20 to 27 inches; (A) pale brown (10YR 6/3) cobbly loam, brown (10YR 5/3) moist; moderate fine and medium granular structure; soft, friable; (B) very pale brown (10YR 7/4) cobbly clay loam, yellowish brown (10YR 5/4) moist; weak fine and medium subangular blocky structure; slightly hard, firm,

slightly sticky and slightly plastic; common very fine and fine and few medium and coarse roots; common very fine and fine interstitial pores; few thin clay films on faces of peds; 15 percent gravel and 20 percent cobbles; medium acid; gradual wavy

A1—0 to 2 inches; light brown (7.5YR 6/4) silt loam, dark brown (7.5YR 4/2) moist; weak thin and very thin platy structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; common fine vesicular pores; moderately calcareous; moderately

The B2t horizon has hue of 10YR or 7.5YR and value of 4 through 6, dry, and 4 or 5, moist. It is silt loam, loam, clay loam, or silty clay loam.

The C horizon has hue of 7.5YR or 10YR and value of 6 through 8, dry. It is clay loam, loam, or silt loam. It is 15 to 25 percent calcium carbonate.

The B and C horizons are 0 to 5 percent gravel.

Hernandez series

The Hernandez series consists of deep, well drained soils. These soils formed in mixed alluvium and eolian sediment on alluvial fans and valley sides. Slopes range from 0 to 5 percent. The elevation is 7,000 to 8,000 feet. The mean annual precipitation is 12 inches, and the mean annual temperature is 49 degrees F.

The Cca horizon has hue of 7.5YR or 10YR; value of 6 through 8, dry, and 5 through 7, moist; and chroma of 2 through 4. It is loam, clay loam, or gravelly sandy clay loam. It has many threads and soft masses of lime or has disseminated lime.

Jaroso series

The Jaroso series consists of deep, well drained soils. These soils formed on mountainsides in colluvium and residuum of interbedded shale and sandstone. Slopes range from 5 to 80 percent. The elevation is 9,000 to 11,000 feet. The mean annual precipitation is 30 inches, and the mean annual temperature is 36 degrees F.

Jaroso soils are similar to Angostura and Presa soils. They are near Etoe, Mascarenas, and Maes soils.

B23t—41 to 53 inches; very pale brown (10YR 7/4) extremely cobbly clay, yellowish brown (10YR 5/4) moist; moderate fine angular blocky structure; extremely hard, very firm, very sticky and very plastic; few very fine interstitial pores; many thick clay films on faces of peds and common clay films on rock fragments; 60 percent gravel, 30 percent cobbles, and 5 percent stones; medium acid; clear wavy boundary.

B3t—53 to 60 inches; very pale brown (10YR 7/4) extremely cobbly sandy clay, yellowish brown (10YR 5/4) moist; weak very fine subangular blocky structure; extremely hard, very firm, sticky and plastic; few very fine tubular pores; many thick clay films on faces of peds and common clay films on rock fragments; 60 percent gravel, 30 percent cobbles, and 5 percent stones; medium acid.

The solum is 60 to 80 inches thick. Rock fragments make up 30 to 90 percent of the solum. The reaction [illegible] slightly acid to medium acid.

The A horizon has hue of 7.5YR or 10YR; value of 5 or 6, dry, and 3 through 5, moist; and chroma of 2 or 3. It is loam or silt loam.

The Cca horizon has value of 5 through 8, dry, and 4 through 7, moist; and chroma of 2 through 4. It is loam, clay loam, or gravelly loam. Calcium carbonate does not increase or decrease enough to qualify this horizon as a calcic horizon.

Lama series

The Lama series consists of deep, well drained soils. These soils formed on old terraces and plains in mixed alluvium that derived from sedimentary and igneous rocks. Slopes range from 0 to 20 percent. The elevation is 7,800 to 8,500 feet. The mean annual precipitation is 17 inches, and the mean annual temperature is 48 degrees F.

Lama soils are similar to Silva soils. They are near Montecito soils. Silva and Montecito soils have soft, powdery secondary carbonates within a depth of 3

C1ca—41 to 48 inches; light reddish brown (5YR 6/4) extremely gravelly sandy clay loam, reddish brown (5YR 5/4) moist; massive; slightly hard, firm, slightly sticky and slightly plastic; few very fine tubular pores; 20 percent cobbles and 50 percent gravel; slightly calcareous; coatings of carbonates on coarse fragments; moderately alkaline; clear smooth boundary.

IIC2—48 to 62 inches; yellow (10YR 7/6) extremely gravelly loamy sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable; 70 percent gravel and 10 percent cobbles; mildly alkaline.

The A1 horizon is loam or clay loam. It is neutral or mildly alkaline.

The B2t horizon has value of 5 or 6, dry, and chroma of 3 or 4. It is clay loam, sandy clay, or clay. It is 35 to 50 percent clay.

Loveland series

The Loveland series consists of deep, poorly drained soils. These soils formed in mixed alluvium on valley bottoms and terraces. Slopes range from 0 to 3 percent. The elevation is 6,500 to 7,500 feet. The mean annual

The A horizon has hue of 2.5Y or 10YR; value of 4 or 5, dry; and chroma of 1 or 2. It is clay loam, loam, or silt loam.

The Cg horizon has hue of 2.5Y or 10YR and has distinct to prominent mottles. It is clay loam, loam, or silt loam. Sand and gravel are at a depth of 20 to 40 inches. The seasonal water table is at a depth of 6 to 18 inches.

Luhon series

The Luhon series consists of deep, well drained soils. These soils formed on basalt plains in mixed alluvium and eolian sediment. Slopes range from 1 to 5 percent. The elevation is 7,600 to 8,800 feet. The mean annual precipitation is 11 inches, and the mean annual temperature is 44 degrees F.

Luhon soils are similar to Hernandez soils. They are near Stunner, Travelers, and Antonito soils. Hernandez soils have a mesic soil temperature regime. Stunner and Antonito soils have an argillic horizon. Antonito soils have basalt at a depth of 20 to 40 inches. Travelers soils have basalt at a depth of less than 20 inches.

Typical pedon of Luhon loam, in an area of Luhon-Travelers complex, 3 to 7 percent slopes, 200 feet south

loam or sandy loam. It is mildly alkaline or moderately alkaline.

The C1 horizon has hue of 7.5YR or 10YR; value of 5 or 6, dry, and 4 or 5, moist; and chroma of 3 or 4.

Maes series

The Maes series consists of deep, well drained soils. These soils formed on mountainsides in colluvium and residuum of consolidated sandstone and shale. Slopes range from 0 to 75 percent. The elevation is 8,000 to 10,500 feet. The mean annual precipitation is 30 inches, and the mean annual temperature is 40 degrees F.

Maes soils are similar to Trampas soils. They are near Derecho, Etoe, and Jaroso soils. Trampas soils have a solum that is less than 50 inches thick. Derecho soils are in a mollic subgroup. Etoe soils have a loamy-skeletal control section. Jaroso soils have a cryic soil temperature regime.

Typical pedon of Maes cobbly loam, in an area of Maes-Etoe complex, 15 to 40 percent slopes, SE1/4SE1/4, sec. 36, T. 25 N., R. 14 E.

O1&O2—2 inches to 0; forest litter in varying degrees of decomposition.

A1—0 to 2 inches; light brownish gray (10YR 6/2) cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; very hard, firm, sticky and plastic; few fine and medium roots; few fine tubular pores; thick clay films on faces of peds and patchy clay films on rock fragments; 40 percent cobbles and 10 percent gravel; slightly acid; clear wavy boundary.

B22t—57 to 67 inches; yellowish brown (10YR 5/8) very cobbly sandy clay, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; very hard, firm, sticky and plastic; very few fine roots; few fine tubular pores; thin patchy clay films on faces of peds and on rock fragments; 50 percent cobbles; slightly acid.

The A1 horizon is light brownish gray or pale brown.

The B2t horizon is clay loam, clay, or sandy clay. It is 35 to 60 percent rock fragments. It is neutral to slightly acid.

Manzano series

The Manzano series consists of deep, well drained soils. These soils formed in mixed alluvium on valley bottoms and alluvial fans. Slopes range from 0 to 5 percent. The elevation is 6,500 to 7,500 feet. The mean annual precipitation is 13 inches, and the mean annual

The A horizon has hue of 7.5YR or 10YR; value of 4 or 5, dry, and 2 or 3, moist; and chroma of 2 or 3. The A horizon is loam or clay loam.

The B21 horizon has hue of 7.5YR or 10YR and value of 4 or 5, dry, and 2 or 3, moist. The B horizon ranges from loam to clay loam.

The C horizon commonly is stratified with medium-textured and moderately fine-textured sediment. In places, strata of sand and gravel are below a depth of 40 inches.

Marosa series

The Marosa series consists of deep, well drained soils. These soils formed on mountainsides, mountaintops, and benches in colluvium and residuum of acid igneous and metamorphic rock. Slopes range from 0 to 80 percent. The elevation is 9,000 to 11,000 feet. The mean annual precipitation is 35 inches, and the mean annual temperature is 40 degrees F.

Marosa soils are similar to Etoe soils. They are near Nambe soils. Etoe soils have a mixed A and B horizon. Nambe soils are more acid than Marosa soils and do not have an argillic horizon.

Typical pedon of Marosa cobbly sandy loam, 40 to 80 percent slopes, SE1/4NE1/4, sec. 15, T. 29 N., R. 14 E.

O1—1 inch to 0; forest litter in varying degrees of decomposition.

A1—0 to 3 inches; light brownish gray (10YR 6/2) cobbly sandy loam, brown (10YR 5/3) moist; weak thin platy structure; soft, friable; many very fine and fine and few medium and coarse roots; many very fine and fine pores; 20 percent gravel and 15 percent cobbles; neutral; clear smooth boundary.

C—44 to 72 inches; cobbles, gravel, and stones and some soil material from horizon above; rock fragments make up 95 percent of the horizon; 45 percent gravel, 35 percent cobbles, and 15 percent stones.

The solum is 40 to 60 inches thick.

The A1 horizon is light brownish gray or very pale brown sandy loam or loam. It is 20 to 60 percent rock fragments.

The B2t horizon is pinkish gray, light brown, pale brown, light yellowish brown, or yellow sandy clay loam or clay loam. It is 50 to 85 percent rock fragments.

Mascarenas series

The Mascarenas series consists of deep, well drained soils. These soils formed on smooth mountainsides in colluvium and residuum of interbedded shale and sandstone. Slopes range from 15 to 80 percent. The elevation is 9,000 to 11,000 feet. The mean annual precipitation is 30 inches, and the mean annual temperature is 36 degrees F.

Mascarenas soils are similar to Diamante soils. They are near Jaroso, Angostura, Derecho, Etoe, and Maes soils. Diamante soils are warmer in summer than Mascarenas soils. Angostura soils have a loamy-skeletal control section. Jaroso soils have an A horizon that is less than 24 inches thick. Derecho soils have a darker A horizon than Mascarenas soils. Etoe soils have a loamy-skeletal control section.

Typical pedon of Mascarenas cobbly sandy loam, in an area of Jaroso-Angostura-Mascarenas complex, 15 to 40 percent slopes, SE1/4SE1/4, sec. 12, T. 23 N., R. 13 E.

rock fragments; 50 percent gravel, 25 percent cobbles, and 10 percent stones; neutral; gradual wavy boundary.

C3—16 to 32 inches; pink (7.5YR 7/4) very stony sandy loam, brown (7.5YR 5/4) moist; massive; soft, friable; few fine and medium roots; common fine

coarse subangular blocky structure; extremely hard, extremely firm, very sticky and very plastic; few very

A12—2 to 6 inches; brown (10YR 5/3) loam, dark yellowish brown (10YR 3/4) moist; moderate very

granite, gneiss, schist, or rhyolite. Slopes range from 0 to 80 percent. The elevation is 10,000 to 12,000 feet. The mean annual precipitation is 35 inches, and the mean annual temperature is 34 degrees F.

Nambe soils are near Marosa and Penitente soils. Marosa soils have an A horizon that is more than 24 inches thick. Penitente soils have a pergelic soil temperature regime.

Typical pedon of Nambe cobbly loam, 15 to 40 percent slopes, NW1/4NW1/4, sec. 2, T. 27 N., R. 14 E.

A1—0 to 5 inches; light yellowish brown (10YR 6/4) cobbly loam, brown (10YR 4/3) moist; weak thin platy structure parting to moderate very fine and fine granular; soft, friable; many very fine and fine roots; common very fine and fine interstitial pores; 20 percent gravel and 15 percent cobbles; very strongly acid; clear smooth boundary.

A2—5 to 16 inches; light yellowish brown (10YR 6/4) very cobbly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate very fine and fine granular structure; soft, friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine and fine interstitial pores; 20 percent gravel and 40 percent cobbles; strongly acid; clear smooth boundary.

B21ir—16 to 24 inches; light brown (7.5YR 6/4) cobbly sandy clay loam, brown (7.5YR 4/4) moist; weak very fine and fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; common

The A1 horizon has value of 5 or 6, dry, and 3 or 4, moist, and chroma of 2 through 4. It is loam or sandy loam.

The A2 horizon is sandy clay loam or sandy loam.

The B2 horizon ranges from sandy clay loam to sandy loam.

Orejas series

The Orejas series consists of shallow, well drained soils. These soils formed on cones and hills in material that derived from basalt. Slopes range from 9 to 40 percent. The elevation is 7,000 to 8,000 feet. The mean annual precipitation is 14 inches, and the mean annual temperature is 52 degrees F.

Orejas soils are near Montecito soils. Unlike Orejas soils, Montecito soils are deep.

Typical pedon of Orejas stony loam, 15 to 40 percent slopes, in NW1/4NE1/4, sec. 9, T. 26 N., R. 11 E.

A1—0 to 2 inches; pale brown (10YR 6/3) very stony loam, dark grayish brown (10YR 4/2) moist; moderate very fine and fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine interstitial pores; 10 percent gravel, 10 percent cobbles, and 40 percent stones; neutral; abrupt smooth boundary.

B2t—2 to 9 inches; light brown (7.5YR 6/4) cobbly clay loam, brown (7.5YR 4/2) moist; moderate very fine and fine subangular blocky structure; hard, firm.

16,000 to 19,000 feet. The mean annual precipitation is ... The C horizon has hue of 10YR or 2.5Y and value of 5

Poganeab series

The Poganeab series consists of deep, poorly drained soils. These soils formed in mixed alluvium on alluvial

Presa series

The Presa series consists of deep, well drained soils. These soils formed on mountainsides and benches in material that weathered from sandstone and shale

and common medium roots; many very fine and fine interstitial pores; many thin clay films on rock fragments; 45 percent gravel, 30 percent cobbles, and 20 percent stones; medium acid; clear wavy

less than 35 percent clay. Servilleta soils have bedrock at a depth of 20 to 40 inches. Travelers soils are less than 35 percent clay and do not have an argillic horizon.

Typical pedon of Prista stony silty clay loam, in a

that weathered from basalt and in eolian sediment. Slopes range from 3 to 25 percent. The elevation is 7,600 to 10,000 feet. The mean annual precipitation is 15 inches, and the mean annual temperature is 41 degrees F.

Raton soils are near Stunner soils. Stunner soils are deep and are less than 35 percent coarse fragments.

Typical pedon of Raton very stony silt loam, 3 to 8 percent slopes, SW1/4SE1/4SW1/4, sec. 9, T. 29 N., R. 11 E.

A1—0 to 4 inches; dark grayish brown (10YR 4/2) very stony silt loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; soft, very friable, slightly sticky and nonplastic; many very fine roots; few fine interstitial pores; 50 percent basalt cobbles and stones; neutral; clear smooth boundary.

B1—4 to 10 inches; dark brown (10YR 3/3) very stony silty clay loam, very dark brown (10YR 2/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many fine roots; many fine vesicular and tubular pores; 70 percent stones; neutral; clear smooth boundary.

B2t—10 to 18 inches; dark brown (10YR 4/3) very stony clay, dark brown (10YR 3/3) moist; strong medium angular blocky structure; very hard, firm, sticky and plastic; few fine roots; few very fine interstitial pores; common thin clay films on faces of peds and on rock fragments; 70 percent basalt stones; neutral; abrupt smooth boundary.

R—18 inches; basalt bedrock.

The A horizon has value of 3 or 4, dry, and 2 or 3, moist. It is 40 to 60 percent rock fragments.

The B1 horizon has hue of 7.5YR to 10YR; value of 3 or 4, dry, and 2 or 3, moist; and chroma of 2 or 3.

The B2t horizon has hue of 7.5YR or 10YR; value of 3 through 5, dry, and 2 or 3, moist; and chroma of 3 or 4, dry, and 2 through 4, moist.

Bedrock is at a depth of 10 to 20 inches.

Royosa series

The Royosa series consists of deep, somewhat excessively drained soils. These soils formed on dunes in eolian materials that derived from a variety of sources. Slopes range from 1 to 15 percent. The elevation is 6,500 to 7,500 feet. The mean annual precipitation is 13 inches, and the mean annual temperature is 52 degrees F.

Royosa soils are near Montecito and Vibo soils. Montecito and Vibo soils are finer textured than Royosa soils.

Typical pedon of Royosa loamy sand, 1 to 8 percent

moist; few very fine and fine roots; many fine interstitial pores; neutral; gradual wavy boundary.

C—8 to 60 inches; brown (7.5YR 5/4) loamy sand, dark reddish brown (5YR 3/4) moist; single grain; loose, dry or moist; few fine roots; many fine interstitial pores; mildly alkaline.

The soil material is neutral to mildly alkaline throughout.

The A1 horizon has value of 5 or 6, dry, and 3 through 5, moist, and chroma of 3 or 4. It is loamy sand, fine sand, or sand.

The C horizon has hue of 5YR, 7.5YR, or 10YR; value of 4 through 6, dry, and 3 through 5, moist; and chroma of 3 or 4. It is loamy sand, fine sand, or sand.

Sabe series

The Sabe series consists of deep, somewhat excessively drained soils. These soils formed in mixed alluvium on terraces. Slopes range from 15 to 80 percent. The elevation is 7,500 to 9,000 feet. The mean annual precipitation is 22 inches, and the mean annual temperature is 42 degrees F.

Sabe soils are near Etoe, Mirand, Maes, and Trampas soils. In Etoe, Mirand, Maes, and Trampas soils, the upper boundary of the argillic horizon is within a depth of 24 inches.

Typical pedon of Sabe very cobbly sandy loam, in an area of Sabe-Mirand complex, 15 to 80 percent slopes, SW1/4SW1/4, sec. 5, T. 23 N., R. 13 E.

O1&O2—1 inch to 0; forest litter in varying degrees of decomposition.

A1—0 to 6 inches; light brownish gray (10YR 6/2) very cobbly sandy loam, brown (10YR 4/3) moist; weak thin platy structure parting to moderate fine granular; soft, very friable; common very fine and few medium roots; many very fine and fine interstitial pores; 25 percent gravel, 20 percent cobbles, and 5 percent stones; neutral; clear smooth boundary.

A21—6 to 18 inches; light gray (10YR 7/2) very cobbly loamy sand, brown (10YR 5/3) moist; very weak fine granular structure; soft, very friable; common very fine and fine and many medium roots; many very fine and fine and common medium interstitial pores; 30 percent gravel, 20 percent cobbles, and 10 percent stones; neutral; gradual smooth boundary.

A22—18 to 25 inches; very pale brown (10YR 7/3) extremely cobbly loamy sand, light yellowish brown (10YR 6/4) moist; very weak very fine and fine granular structure; soft, friable; few very fine and common fine roots; many very fine and common medium interstitial pores; 30 percent gravel, 20

6/4) moist; single grain; loose, dry or moist; few very fine and fine roots; many fine and medium interstitial pores; lamellae of pink (7.5YR 7/4) sandy clay loam, light brown (7.5YR 6/4) moist; slightly hard, friable; few very fine and fine roots; few very fine and fine interstitial pores; common thin clay films bridging some sand grains; lamellae are 1/4- to 1/2-inch thick and are discontinuous; 15 percent gravel, 60 percent cobbles, and 15 percent stones; neutral.

The solum is 40 to more than 60 inches thick. Rock fragments make up 40 to 90 percent of the solum.

Sedillo series

The Sedillo series consists of deep, well drained soils. These soils formed on terraces in gravelly alluvium. Slopes range from 3 to 15 percent. The elevation is 6,800 to 8,000 feet. The mean annual precipitation is 12 inches, and the mean annual temperature is 49 degrees F.

Sedillo soils are near Orthents and Silva soils. Silva

C2—24 to 60 inches; brown (7.5YR 5/4) very gravelly sandy loam, dark brown (7.5YR 4/4) moist; massive; slightly hard, very friable; common very fine tubular pores; 60 percent gravel and 10 percent cobbles; strongly calcareous; thin coatings of lime on gravel; moderately alkaline.

The solum is 10 to 25 inches thick. Rock fragments make up 35 to 75 percent of the pedon.

The A horizon has hue of 7.5YR or 10YR; value of 4 or 5, dry, and 3 or 4, moist; and chroma of 3 or 4. It is gravelly loam, cobbly loam, very gravelly sandy clay loam.

The C horizon has value of 5 through 7, dry, and chroma of 2 through 4. It is very gravelly sandy loam or very gravelly sandy clay loam. The calcium carbonate equivalent is 15 to 30 percent.

Servilleta series

The Servilleta series consists of moderately deep, well drained soils. These soils formed on broad mesas and

B22t—10 to 18 inches; light brown (7.5YR 6/4) clay loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; common fine roots; common fine

and very fine vesicular pores; the surface is 15 percent angular basalt stones and cobbles, mildly alkaline; clear smooth boundary.

B1t—4 to 9 inches; brown (7.5YR 5/4) clay loam, brown

A1—0 to 3 inches; brown (7.5YR 5/4) loam, dark brown (7.5YR 3/2) moist; weak fine granular structure; soft, very friable; many medium roots; many very fine pores; neutral; abrupt smooth boundary.

B1—3 to 9 inches; dark brown (7.5YR 4/4) loam, reddish brown (5YR 4/3) moist; weak fine subangular blocky structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; many soft, friable; many very fine and fine roots; many very fine interstitial pores; 20 percent cobbles and 30 percent gravel; neutral; abrupt smooth boundary.

A2—2 to 7 inches; light gray (10YR 7/2) gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak very fine and fine granular structure; soft, friable; many very fine and fine roots; many very fine interstitial

Travelers series

The Travelers series consists of shallow, well drained soils. These soils formed on old basalt flows in material that weathered from basalt and in eolian sediment. Slopes range from 1 to 8 percent. The elevation is 7,600 to 8,800 feet. The mean annual precipitation is 11 inches, and the mean annual temperature is 44 degrees F.

Travelers soils are near Antonito, Stunner, and Lubon

Slopes range from 3 to 10 percent. The elevation is 6,400 to 7,500 feet. The mean annual precipitation is 13 inches, and the mean annual temperature is 50 degrees F.

Vibo soils are near Montecito and Royosa soils. Montecito soils are fine textured. Royosa soils are sandy.

Typical pedon of Vibo sandy loam, 3 to 10 percent slopes, in SE1/4NE1/4, sec. 22, T. 24 N., R. 10 E.

A1—0 to 2 inches; brown (10YR 5/3) sandy loam, dark

Wellsville series

The Wellsville series consists of deep, well drained soils. These soils formed on mountainsides in alluvium and colluvium that derived from acid igneous rock. Slopes range from 9 to 30 percent. The elevation is 9,000 to 10,500 feet. The mean annual precipitation is 25 inches, and the mean annual temperature is 38 degrees F.

Wellsville soils are similar to Ess soils. Ess soils are more than 35 percent rock fragments.

Typical pedon of Wellsville gravelly loam in an area of Wellsville-Ess association, moderately steep, 3.5 miles south of Costilla Lodge and 1 mile north of dam on Costilla Reservoir, on west side of ranch road:

A1—0 to 8 inches; dark grayish brown (10YR 4/2) gravelly loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; soft, very friable, slightly sticky and nonplastic; many very fine, fine, and medium roots; many fine discontinuous tubular pores; 20 percent gravel; neutral; gradual smooth boundary.

B1—8 to 19 inches; dark grayish brown (10YR 4/2) gravelly clay loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; soft, friable, slightly sticky and nonplastic; common fine and very fine and few medium roots; few fine discontinuous tubular pores; thin discontinuous clay films on faces of peds and on rock fragments; 20 percent gravel; neutral; clear smooth boundary.

B21t—19 to 33 inches; brown (7.5YR 5/4) gravelly clay loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few fine, very fine, and medium roots; few fine discontinuous tubular pores; thin discontinuous clay films on faces of peds and on rock fragments; 20 percent gravel; neutral; clear smooth boundary.

B22t—33 to 42 inches; brown (7.5YR 5/4) gravelly sandy clay loam, dark brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; discontinuous tubular pores; thin discontinuous clay films on faces of peds and on rock fragments; 20 percent gravel; neutral; gradual smooth boundary.

C—42 to 65 inches; light brown (7.5YR 6/4) very gravelly sandy clay loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; 50 percent gravel; mildly alkaline.

The A horizon has value of 4 or 5, dry, and 2 or 3, moist. It is loam or gravelly loam. It is 5 to 20 percent gravel.

The B horizon has hue of 7.5YR or 10YR and value of 5 or 6, dry, and 4 or 5 moist. It is clay loam, gravelly clay loam, or gravelly sandy clay loam.

The C horizon is 15 to 55 percent gravel.

formation of the soils

Soils are formed by weathering and other processes that act on the parent material. The characteristics of the soil at any given point depend on a combination of the following factors: physical and mineralogical composition of the parent material, climate, plant and animal life, relief, and time.

Alluvial-fan and piedmont sediment is along the western front of the Sangre de Cristo Mountains. Sedillo soils formed in mixed gravelly alluvium.

Several volcanic mountains and basalt flows are in the western part of the survey area. Servilleta and Petaca soils formed in material that weathered from basalt and that is somewhat modified by eolian sediment.

Petaca soils formed in areas that have an annual precipitation of 12 inches, and they are mildly to moderately alkaline and have a distinct zone of calcium carbonate accumulation that has a 15 to 30 percent calcium carbonate equivalent. Penitente soils formed in areas that have an annual precipitation of 35 inches, and they are medium acid to strongly acid and have no zone of calcium carbonate accumulation.

Basalt bedrock weathers fairly rapidly in a humid climate and is resistant to weathering in arid areas. Prieta soils are shallow to basalt.

plant and animal life

Plants and animals, mainly plants, are active in soil formation. Plant roots penetrate the parent material, break up the soil, rearrange soil particles, force openings into the soil, and thus make the soil more porous. They also transfer plant nutrients from the lower horizons to the upper horizons. Animals burrow in the soil and mix the soil material. Man changes the soil by leveling the land, tilling the soil, irrigating, and planting different crops. Earthworms, bacteria, and fungi live in the soil, feed on the organic matter, and recycle plant nutrients. The organic matter is added to the soil as plants and animals die and decompose.

Silva and Hernandez soils formed under a sparse stand of grass. They have a light-colored surface horizon

relief

Relief refers to the shape of the landscape or differences in elevation of a land surface. It influences soil formation by affecting runoff, drainage, erosion, and soil temperature. Because these elements vary, the thickness of the surface horizon and of the solum, the degree of horizon differentiation, and the nature of the parent material differ.

The relief in the Taos area varies widely. In the Rio Grande Valley slopes are mainly less than 2 percent, and the elevation is 7,000 to 8,000 feet. In the Sangre de Cristo Mountains, slopes are mainly 15 to 75 percent, and the elevation is 8,000 to 13,160 feet.

In many places, Stunner and Luhon soils are associated geographically. Because Stunner soils commonly are on slightly concave slopes and Luhon soils commonly are on slightly convex slopes, Stunner soils receive slightly more moisture and have a stronger degree of horizon differentiation than Luhon soils.

time

Time is needed for soils to form from parent material. The length of time needed for soil formation is dependent on the other soil-forming factors. The soils in the Taos area range from young soils, which have little or no development, to older soils, which have distinct horizonation.

Loveland and Caruso soils are young soils. They formed on flood plains in stratified loamy, silty, and

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glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly such soil formed in recent alluvium or on steep rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Base saturation. The degree to which material having cation exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the total cation exchange capacity.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Blowout. A shallow depression from which all or most of the soil material has been removed by wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is

claypan is commonly hard when dry and plastic or

high water table, additional water light, moisture, temperature, tilth, and other growth

B horizon.—The mineral horizon below an A

Low strength. The soil is not strong enough to support loads.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it is generally low in relief.

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 downward movement of water through the soil.

Perco slowly (in tables). The slow movement of water

plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Range condition. The present composition of the plant community on a range site in relation to the potential natural plant community for that site. Range condition is expressed as excellent, good, fair, or poor, on the basis of how much the present plant community has departed from the potential.

Range site. An area of rangeland where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. A range site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other range sites in kind or proportion of species or total production.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degree of acidity or alkalinity is expressed as—

	pH
Extremely acid	Below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Medium acid	5.6 to 6.0

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and runoff water.

Shrink-swell. 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.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 mm in equivalent diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are as follows:

	Millimeters
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 and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. 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.

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. Technically, the A2 horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

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."

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field is generally built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). 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 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.

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.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial melt water. In nonglaciated regions, alluvium deposited by heavily loaded 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 ovendry basis, at which a plant (specifically sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

[Recorded in the period 1932-60 at Cerro, Taos County, New Mexico]

Month	Temperature				Precipitation				
			2 years in 10 will have at least 4 days with--			1 year in 10 will have--		Average number of days with precipitation	
	Average daily maximum	Average daily minimum	Maximum temperature equal to or higher than--	Minimum temperature equal to or lower than--	Average monthly total	less than--	more than--	0.10 inch or more	0.25 inch or more
	°F	°F	°F	°F	In	In	In		
January----	37	7	52	-15	0.6	0.1	1.4	2	1
February---	41	12	57	-7	0.6	0.3	1.0	2	1
March------	49	20	63	6	0.6	0.2	1.0	2	1
April------	60	27	71	17	1.0	0.1	1.4	3	2
May--------	68	35	78	26	1.4	0.3	2.3	4	2
June-------	78	43	88	34	0.9	0.1	1.6	3	1
July-------	82	48	91	43	1.7	0.8	2.4	5	3
August-----	80	48	90	41	1.9	0.8	3.7	5	3
September--	76	41	87	33	1.4	0.1	2.7	3	2
October----	65	31	76	20	1.2	0.3	2.5	3	2
November---	51	17	62	-1	0.6	(3)	0.9	2	1
December---	40	10	55	-9	0.6	(3)	1.3	2	1
Year-------	61	28	[1]91	[2]-18	12.5	9.5	16.4	36	20

[1] Average annual highest temperature.

[redacted]

TABLE 2.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Taos county	Rio Arriba county	Mora county	Total--	
		Acres	Acres	Acres	Area Acres	Extent Pct
AMF	Amalia-Manzano association, steep	35,305	0	0	35,305	2.3
ATC	Antonito-Travelers association, gently sloping	8,048	5,615	0	13,663	0.9

TABLE 2.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Taos county	Rio Arriba county	Mora county	Total--	
					Area	Extent
		Acres	Acres	Acres	Acres	Pct
PAG	Paleboralfs-Cryochrepts-Rock outcrop association, very steep	26,328	1,951	0	28,279	1.8
PbD	Penitente gravelly loam, 5 to 15 percent slopes	299	0	0	299	*
PbF	Penitente gravelly loam, 15 to 40 percent slopes	1,719	190	0	1,909	0.1
PeD	Petaca very stony loam, 1 to 15 percent slopes	8,860	0	0	8,860	0.6
PfC	Petaca-Prieta complex, 1 to 8 percent slopes	13,980	0	0	13,980	0.9
PGC	Petaca-Silva association, gently sloping	6,000	0	0	6,000	0.4
PoB	Poganeab silty clay loam, nearly level	1,110	0	0	1,110	0.1
PrD	Presa cobbly loam, 0 to 15 percent slopes	1,342	0	295	1,637	0.1

TABLE 3.--YIELDS PER ACRE OF IRRIGATED CROPS AND PASTURE

[Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Soil name and map symbol	Alfalfa hay		Grass hay		Barley		Oats		Wheat		Pasture	
	N	I	N	I	N	I	N	I	N	I	N	I
	Ton	Ton	Ton	Ton	Bu	Bu	Bu	Bu	Bu	Bu	AUM*	AUM*
CaB---------- Caruso	---	---	---	2.0	---	---	---	---	---	---	---	7.0
FeB---------- Fernando	---	4.5	---	3.2	---	80	---	75	---	50	---	7.0
FeC, FfC---------- Fernando	---	3.5	---	3.0	---	70	---	70	---	40	---	6.0
LoB---------- Loveland	---	---	---	2.0	---	---	---	---	---	---	---	6.0
MnA---------- Manzano	---	4.5	---	3.5	---	90	---	80	---	55	---	7.0
MnB---------- Manzano	---	4.0	---	3.2	---	80	---	75	---	50	---	7.0
MnC---------- Manzano	---	3.5	---	3.0	---	70	---	65	---	40	---	6.0
PoB---------- Poganeab	---	---	---	2.0	---	---	---	---	---	---	---	6.0
ShB---------- Shawa	---	2.0	---	2.5	---	---	---	---	---	---	---	6.0
SmB---------- Silva	---	4.2	---	3.0	---	75	---	70	---	48	---	7.0
TeB---------- Tenorio	---	3.0	---	2.5	---	70	---	70	---	40	---	6
TeC---------- Tenorio	---	---	---	---	---	---	---	---	---	---	---	3

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

TABLE 4.--WOODLAND MANAGEMENT AND PRODUCTIVITY

TABLE 4.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Management concerns					Potential productivity		Trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	
JaF*: Mascarenas	Moderate	Moderate	Slight	Slight	Slight	Douglas-fir Engelmann spruce Subalpine fir White fir Quaking aspen	70 68 --- 70 ---	Douglas-fir, Engelmann spruce, white fir.
JaG*: Jaroso	Severe	Severe	Slight	Slight	Slight	Douglas-fir Engelmann spruce Subalpine fir White fir	73 69 --- 69	Douglas-fir, Engelmann spruce, white fir.

TABLE 4.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Management concerns					Potential productivity		Trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	
MeG*:								
Maes	Severe	Severe	Slight	Slight	Moderate	Douglas-fir	65	Douglas-fir, ponderosa pine, white fir.
						Ponderosa pine	63	
						White fir	65	
						Limber pine	---	
						Quaking aspen	---	
Etoe	Severe	Severe	Moderate	Slight	Moderate	Douglas-fir	56	Douglas-fir, ponderosa pine, white fir.
						Ponderosa pine	---	
						White fir	---	
MFG*:								
Maes	Severe	Severe	Slight	Slight	Moderate	Douglas-fir	65	Douglas-fir,

TABLE 4.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Management concerns					Potential productivity		Trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	
MwD---------- Mirand	Slight	Moderate	Slight	Slight	Moderate	Ponderosa pine------	76	Ponderosa pine.
MxD---------- Montecito	---	---	---	---	---	Oneseed juniper-----	---	
						Pinyon-------------	---	
MxE*: Montecito---------	---	---	---	---	---	Oneseed juniper-----	---	
						Pinyon-------------	---	
Rock outcrop.								
NaD---------- Nambe	Slight	Slight	Moderate	Slight	Moderate	Engelmann spruce----	70	Engelmann spruce.
						Subalpine fir-------	---	
NaF---------- Nambe	Moderate	Moderate	Moderate	Slight	Moderate	Engelmann spruce----	60	Engelmann spruce.
						Subalpine fir-------	---	
NaF2--------- Nambe	Severe	Moderate	Severe	Slight	Severe	Engelmann spruce----	---	
						Subalpine fir-------	---	
NaG---------- Nambe	Severe	Severe	Moderate	Slight	Moderate	Engelmann spruce----	50	Engelmann spruce.
						Subalpine fir-------	---	
NaG2--------- Nambe	Severe	Severe	Severe	Slight	Severe	Engelmann spruce----	---	
						Subalpine fir-------	---	
NRG*: Nambe----------	Severe	Severe	Moderate	Slight	Moderate	Engelmann spruce----	50	Engelmann spruce.
						Subalpine fir-------	---	
Rock outcrop.								
NRG2*: Nambe----------	Severe	Severe	Severe	Slight	Severe	Engelmann spruce----	---	
						Subalpine fir-------	---	
Rock outcrop.								
OeF---------- Orejas	---	---	---	---	---	Oneseed juniper-----	---	
						Pinyon-------------	---	
OMD*: Orejas----------	---	---	---	---	---	Oneseed juniper-----	---	

TABLE 4.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Management concerns					Potential productivity		Trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	
PYF*:								
Presa	Moderate	Moderate	Moderate	Moderate	Slight	Engelmann spruce	70	Engelmann spruce.
						Subalpine fir	---	
Cryaquolls.								
RBE*:								
Raton	---	---	---	---	---	Oneseed juniper	---	
						Pinyon	---	
Stunner.								
RRE*:								
Rock outcrop.								
Raton	---	---	---	---	---	Rocky Mt. juniper	---	
						Pinyon	---	
RvC	---	---	---	---	---	Oneseed juniper	---	
Royosa						Pinyon	---	
RWE*:								
Royosa	---	---	---	---	---	Oneseed juniper	---	
						Pinyon	---	
Orthents.								
RYD*:								
Royosa	---	---	---	---	---	Oneseed juniper	---	
						Pinyon	---	
Vibo	---	---	---	---	---	Oneseed juniper	---	

TABLE 5.--WOODLAND UNDERSTORY VEGETATION

[Only the soils suitable for production of commercial trees are listed]

TABLE 5.--WOODLAND UNDERSTORY VEGETATION--Continued

Soil name and map symbol	Total production		Characteristic vegetation	Composition
	Kind of year	Dry weight		
		Lb/acre		Pct
JaD*:				
Jaroso	Favorable	400	Grouse whortleberry	50
	Normal	275	Snowberry	10
	Unfavorable	175	Arizona fescue	10
			Nodding bromegrass	10
			Oregon-grape	5
			Kinnikinnick	5
			Common yarrow	5
			Kentucky bluegrass	5
Angostura	Favorable	350	Grouse whortleberry	20
	Normal	250	Thurber fescue	15
	Unfavorable	150	Muttongrass	15
			Tufted hairgrass	10
			Columbia needlegrass	10
			Mountain brome	5
			Kinnikinnick	5
			Nodding bromegrass	5
			Sheep fescue	5
JaF*:				
Jaroso	Favorable	350	Grouse whortleberry	50
	Normal	250	Kinnikinnick	10
	Unfavorable	150	Kentucky bluegrass	10
			Nodding bromegrass	10
			Oregon-grape	5
			Snowberry	5
			Common yarrow	5
			Arizona fescue	5
Angostura	Favorable	300	Grouse whortleberry	25
	Normal	200	Thurber fescue	15
	Unfavorable	100	Muttongrass	15
			Tufted hairgrass	10
			Kinnikinnick	10
			Columbia needlegrass	10
			Mountain brome	5
			Nodding bromegrass	5
			Sheep fescue	5
Mascarenas	Favorable	350	Kinnikinnick	25
	Normal	250	Snowberry	20
	Unfavorable	150	Kentucky bluegrass	15
			Oregon-grape	10
			Western thimbleberry	5
			Grouse whortleberry	5
			Common yarrow	5
			Silverweed cinquefoil	5
			Nodding bromegrass	5
			Timber oatgrass	5
JaG*:				
Jaroso	Favorable	250	Grouse whortleberry	50
	Normal	150	Kentucky bluegrass	15
	Unfavorable	50	Kinnikinnick	10
			Snowberry	10
			Nodding bromegrass	10
			Common yarrow	5
Angostura	Favorable	250	Grouse whortleberry	45
	Normal	150	Thurber fescue	10
	Unfavorable	50	Muttongrass	10

TABLE 5.--WOODLAND UNDERSTORY VEGETATION--Continued

Soil name and map symbol	Total production		Characteristic vegetation	Composition
	Kind of year	Dry weight		
		Lb/acre		Pct
JaG*:				
Mascarenas	Favorable	350	Kinnikinnick	25
	Normal	250	Snowberry	20
	Unfavorable	150	Kentucky bluegrass	15
			Oregon-grape	10
			Western thimbleberry	5
			Grouse whortleberry	5
			Common yarrow	5
			Silverweed cinquefoil	5
			Nodding bromegrass	5
			Timber oatgrass	5
JRG*:				
Jaroso	Favorable	250	Grouse whortleberry	50
	Normal	150	Kentucky bluegrass	15
	Unfavorable	50	Kinnikinnick	10
			Snowberry	10
			Nodding bromegrass	10
			Common yarrow	5
Angostura	Favorable	250	Grouse whortleberry	45
	Normal	150	Thurber fescue	10
	Unfavorable	50	Muttongrass	10
			Kinnikinnick	10
			Mountain brome	5
			Tufted hairgrass	5
			Nodding bromegrass	5
			Columbia needlegrass	5
			Sheep fescue	5
Rock outcrop.				
LaE	Favorable	400	Pinyon	45
Lama	Normal	250	Oneseed juniper	20
	Unfavorable	150	Big sagebrush	10
			Oak	10
			Blue grama	5
			Bottlebrush squirreltail	5
			Bluegrass	5
MaF	Favorable	400	Grouse whortleberry	20
Maes	Normal	250	Snowberry	20
	Unfavorable	175	Mountain brome	20
			Timber oatgrass	15
			Kinnikinnick	10
			Silverweed cinquefoil	5
			Kentucky bluegrass	5
			Nodding bromegrass	5
MeD*:				
Maes	Favorable	450	Mountain brome	20
	Normal	300	Silverweed cinquefoil	10
	Unfavorable	200	Timber oatgrass	10
			Grouse whortleberry	10
			Kinnikinnick	10
			Snowberry	10
			Kentucky bluegrass	10
			Nodding bromegrass	10
			Common juniper	5
			Gambel oak	5

See footnote at end of table.

TABLE 5.--WOODLAND UNDERSTORY VEGETATION--Continued

Soil name and map symbol	Total production		Characteristic vegetation	Composition
	Kind of year	Dry weight		
		Lb/acre		Pct
MeD*:				
Etoe	Favorable	450	Muttongrass	15
	Normal	300	Columbia needlegrass	15
	Unfavorable	200	Thurber fescue	15

TABLE 5.--WOODLAND UNDERSTORY VEGETATION--Continued

Soil name and map symbol	Total production		Characteristic vegetation	Composition
	Kind of year	Dry weight		
		Lb/acre		Pct
MFG*: Rock outcrop.				
MrD, MrF, MrG------ Marosa	Favorable	400	Kentucky bluegrass----------	30
	Normal	250	Common yarrow----------	20
	Unfavorable	175	Snowberry----------	10
			Grouse whortleberry----------	10
			Arizona fescue----------	10
			Mountain brome----------	10
			Oregon-grape----------	5
			Kinnikinnick----------	5
MSG*, MSG2*:				
Marosa----------	Favorable	400	Kentucky bluegrass----------	30
	Normal	250	Common yarrow----------	20
	Unfavorable	175	Snowberry----------	10

TABLE 5.--WOODLAND UNDERSTORY VEGETATION--Continued

Soil name and map symbol	Total production		Characteristic vegetation	Composition
	Kind of year	Dry weight		
		Lb/acre		Pct
MxE*:				
Montecito	Favorable	350	Oneseed juniper	40
	Normal	200	Pinyon	15
	Unfavorable	150	Big sagebrush	10
			Broom snakeweed	5
			Sideoats grama	5
			Blue grama	5
			Bottlebrush squirreltail	5
			Muttongrass	5
			Pingue	5
			Gambel oak	5
Rock outcrop.				
NaD, NaF, NaG-----	Favorable	200	Grouse whortleberry	50
Nambe	Normal	100	Tufted hairgrass	15
	Unfavorable	50	Kinnikinnick	10
			Western thimbleberry	10
			Redfruit gooseberry	10
			Oregon-grape	5
NaF2, NaG2---------	Favorable	300	Grouse whortleberry	30
Nambe	Normal	200	Western yarrow	15
	Unfavorable	100	Kinnikinnick	10
			Redfruit gooseberry	10
			Oregon-grape	10
			Mountain brome	5
			Tufted hairgrass	5
			Western thimbleberry	5
			Scarlet indian paintbrush	5
			Timber oatgrass	5
NRG, NRG2*:				
Nambe	Favorable	300	Grouse whortleberry	30
	Normal	200	Western yarrow	15
	Unfavorable	100	Kinnikinnick	10
			Redfruit gooseberry	10
			Oregon-grape	10
			Mountain brome	5
			Tufted hairgrass	5
			Western thimbleberry	5
			Scarlet indian paintbrush	5
			Timber oatgrass	5
Rock outcrop.				
OeF----------	Favorable	250	Oneseed juniper	30
Orejas	Normal	175	Pinyon	20
	Unfavorable	135	Blue grama	15
			Big sagebrush	10
			Sideoats grama	10
			Broom snakeweed	5
			Ring muhly	5
			Bottlebrush squirreltail	5
OMD*:				
Orejas	Favorable	250	Oneseed juniper	30
	Normal	175	Pinyon	20
	Unfavorable	135	Blue grama	15
			Big sagebrush	10
			Sideoats grama	10
			Broom snakeweed	5
			Ring muhly	5
			Bottlebrush squirreltail	5

See footnote at end of table.

TABLE 5.--WOODLAND UNDERSTORY VEGETATION--Continued

Soil name and map symbol	Total production		Characteristic vegetation	Composition
	Kind of year	Dry weight		
		Lb/acre		Pct
OMD*:				
Montecito	Favorable	350	Oneseed juniper	40
	Normal	200	Pinyon	15
	Unfavorable	150	Big sagebrush	10
			Broom snakeweed	5
			Sideoats grama	5
			Blue grama	5
			Bottlebrush squirreltail	5
			Muttongrass	5
			Pingue	5
			Gambel oak	5
PrD, PrF, PrG	Favorable	200	Grouse whortleberry	50
Presa	Normal	100	Muttongrass	15
	Unfavorable	50	Kinnikinnick	10
			Western yarrow	5
			Arizona fescue	5
			Mountain brome	5
			Timber oatgrass	5
			Carex	5
PSG*:				
Presa	Favorable	200	Grouse whortleberry	50
	Normal	100	Muttongrass	15
	Unfavorable	50	Kinnikinnick	10
			Western yarrow	5
			Arizona fescue	5
			Mountain brome	5
			Timber oatgrass	5
			Carex	5
Rock outcrop.				
PYF*:				
Presa	Favorable	200	Grouse whortleberry	50
	Normal	100	Muttongrass	15
	Unfavorable	50	Kinnikinnick	10
			Western yarrow	5
			Arizona fescue	5
			Mountain brome	5
			Timber oatgrass	5
			Carex	5
Cryaquolls.				
RBE*:				
Raton	Favorable	400	Pinyon	35
	Normal	250	Western wheatgrass	15
	Unfavorable	150	Oneseed juniper	15
			Big sagebrush	10
			Arizona fescue	5
			Mountain muhly	5
			Prairie junegrass	5
			Muttongrass	5
			Pinyon ricegrass	5

TABLE 5.--WOODLAND UNDERSTORY VEGETATION--Continued

Soil name and map symbol	Total production		Characteristic vegetation	Composition
	Kind of year	Dry weight		
		Lb/acre		Pct
RRE*:				
Raton	Favorable	400	Pinyon	35
	Normal	250	Rocky mountain juniper	20
	Unfavorable	150	Western wheatgrass	15
			Oneseed juniper	15
			Gambel oak	5
			Arizona fescue	5
			Mountain muhly	5
			Muttongrass	5
			Pinyon ricegrass	5
RvC	Favorable	250	Oneseed juniper	25
Royosa	Normal	175	Blue grama	15
	Unfavorable	100	Indian ricegrass	15
			Pinyon	10
			Sandhill muhly	10
			Threeawn	10
			Yucca	10
			Rubber rabbitbrush	5
RWE*:				
Royosa	Favorable	250	Oneseed juniper	25
	Normal	175	Blue grama	15
	Unfavorable	100	Indian ricegrass	15
			Pinyon	10
			Sandhill muhly	10
			Threeawn	10
			Yucca	10
			Rubber rabbitbrush	5
Orthents.				
RYD*:				
Royosa	Favorable	250	Oneseed juniper	25
	Normal	175	Blue grama	15
	Unfavorable	100	Indian ricegrass	15
			Pinyon	10
			Sandhill muhly	10
			Threeawn	10
			Yucca	10
			Rubber rabbitbrush	5
Vibo	Favorable	475	Oneseed juniper	25
	Normal	250	Pinyon	15
	Unfavorable	125	Blue grama	15
			Indian ricegrass	10
			Galleta	5
			Sand dropseed	5
			Needleandthread	5
			Rubber rabbitbrush	5
			Ring muhly	5
			Threeawn	5
			Plains pricklypear	5
SaG*:				
Sabe	Favorable	175	Bottlebrush squirreltail	50
	Normal	100	Prairie junegrass	20
	Unfavorable	50	Gambel oak	10
			True mountainmahogany	10
			Mountain muhly	10

See footnote at end of table.

TABLE 5.--WOODLAND UNDERSTORY VEGETATION--Continued

Soil name and map symbol	Total production		Characteristic vegetation	Composition
	Kind of year	Dry weight		
		Lb/acre		Pct
SaG*:				
Mirand	Favorable	400	Arizona fescue	40
	Normal	250	Mountain muhly	20
	Unfavorable	100	Prairie junegrass	10
			Muttongrass	10
			Gambel oak	5
			Bottlebrush squirreltail	5
			Pine dropseed	5
			Mountain brome	5
TrF, TsE	Favorable	300	Arizona fescue	40
Trampas	Normal	200	Mountain muhly	25
	Unfavorable	100	Prairie junegrass	10
			Pine dropseed	10
			Gambel oak	5
			Bottlebrush squirreltail	5
			Muttongrass	5
TTF*:				
Trampas	Favorable	250	Arizona fescue	40
	Normal	150	Mountain muhly	25
	Unfavorable	75	Muttongrass	10
			Pine dropseed	10
			Bottlebrush squirreltail	5
			Prairie junegrass	5
			Carex	5
Diamante	Favorable	200	Gambel oak	20
	Normal	100	Kinnikinnick	20
	Unfavorable	50	Pine dropseed	15
			Mountain muhly	15
			Arizona fescue	10
			Carex	10
			Nodding brome	5
			Muttongrass	5
UTG*:				
Ustorthents.				
Trampas	Favorable	250	Arizona fescue	40
	Normal	150	Mountain muhly	25
	Unfavorable	75	Muttongrass	10
			Pine dropseed	10
			Bottlebrush squirreltail	5
			Prairie junegrass	5
			Carex	5
VbD	Favorable	475	Oneseed juniper	25
Vibo	Normal	250	Pinyon	15
	Unfavorable	125	Blue grama	15
			Indian ricegrass	10
			Galleta	5
			Sand dropseed	5
			Needleandthread	5
			Rubber rabbitbrush	5
			Ring muhly	5
			Threeawn	5
			Plains pricklypear	5

* See description of the map unit for the composition and behavior characteristics of the map unit.

TABLE 6.--RECREATIONAL DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

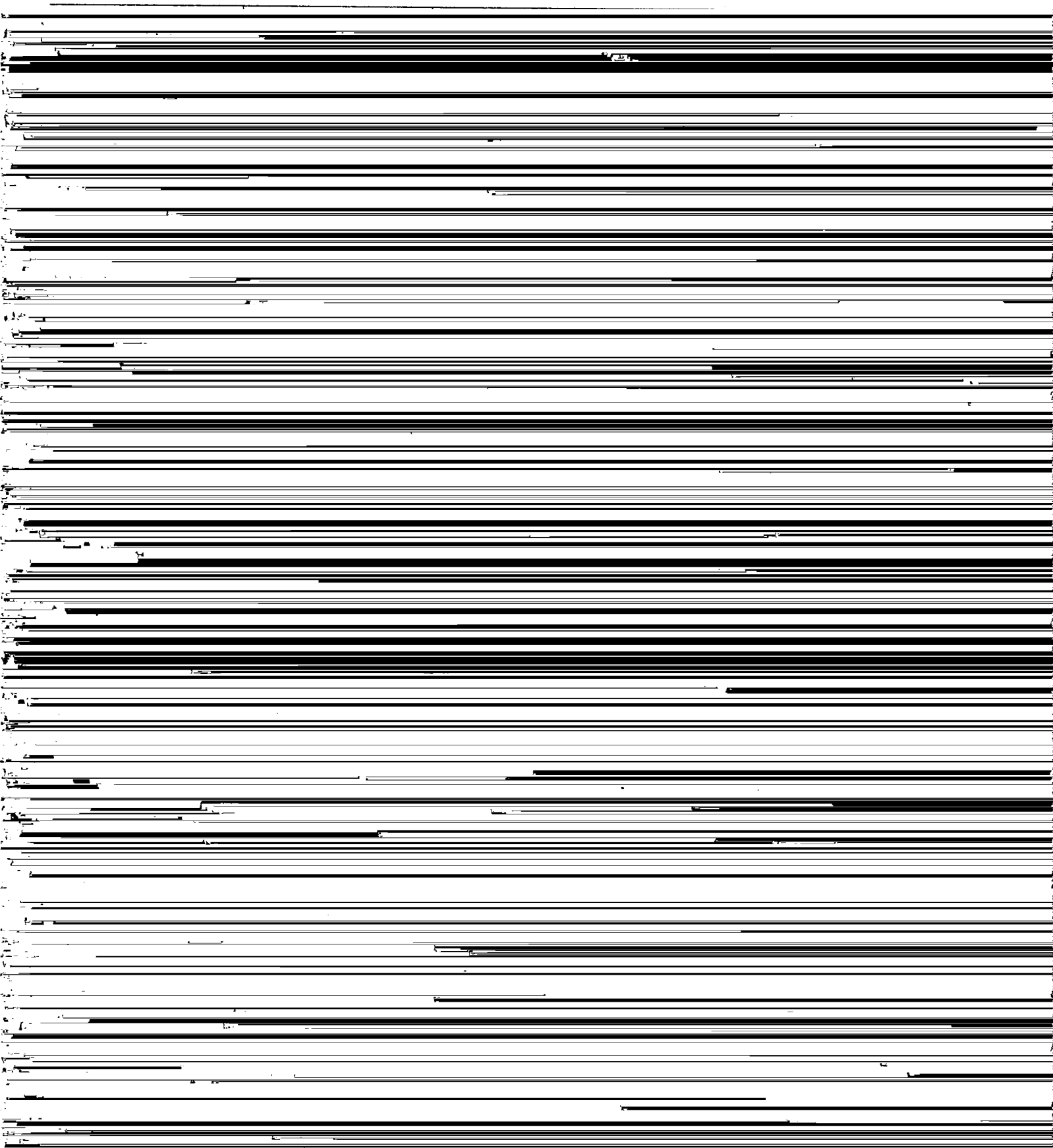

TABLE 6.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
DFG*: Rock outcrop.				
DmF---------- Diamante	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.
EGG*: Eutroboralfs. Glossoboralfs. Rock outcrop.				
FaC---------- Fernando	Moderate: percs slowly, small stones.	Moderate: small stones, dusty.	Severe: small stones.	Moderate: small stones, dusty.
FbC---------- Fernando	Moderate: dusty, percs slowly.	Moderate: dusty.	Moderate: slope, percs slowly.	Moderate: dusty.
FeB, FeC---------- Fernando	Moderate: percs slowly, too clayey.	Moderate: too clayey.	Moderate: slope, percs slowly.	Moderate: too clayey.
FfC---------- Fernando	Moderate: percs slowly, too clayey.	Moderate: too clayey.	Severe: slope.	Moderate: too clayey.
FHB*: Fernando----------	Moderate: percs slowly, too clayey.	Moderate: too clayey.	Moderate: slope, percs slowly.	Moderate: too clayey.
Hernandez----------	Slight----------	Slight----------	Moderate: slope.	Slight.
FLB*. Fluvents				
HaB---------- Hernandez	Slight----------	Slight----------	Moderate: slope, small stones.	Slight.
HKC*: Hernandez----------	Slight----------	Slight----------	Moderate: slope.	Slight.
[illegible]	[illegible]	[illegible]	[illegible]	Moderate:

TABLE 6.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
HSC*:				

TABLE 6.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails

TABLE 6.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
MxD	Moderate:			

TABLE 6.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
PeD---------- Penistaja	Moderate: slope	Moderate: slope	Severe: [illegible]	Moderate: large stones.

TABLE 6.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
RcG*. Rock outcrop				
RdG*: Rock outcrop.				
Badland.				
RPG*: Rock outcrop.				
Penitente	Severe: slope.	Severe: slope.	Severe: small stones, slope.	Moderate: small stones, slope.
RRE*: Rock outcrop.				
Raton	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones, depth to rock.	Severe: large stones.
RUG*: Rock outcrop.				
Ustorthents.				
RvC Royosa	Severe: soil blowing, too sandy.	Severe: soil blowing, too sandy.	Severe: soil blowing, too sandy.	Severe: soil blowing, too sandy.
RWE*: Royosa	Severe: soil blowing, too sandy.	Severe: soil blowing, too sandy.	Severe: slope, soil blowing, too sandy.	Severe: soil blowing, too sandy.
Orthents.				
RYD*: Royosa	Severe: soil blowing, too sandy.	Severe: soil blowing, too sandy.	Severe: slope, soil blowing, too sandy.	Severe: soil blowing, too sandy.
Vibo	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight.
SaG*: Sabe	Severe: slope, small stones.	Severe: slope, small stones.	Severe: slope, small stones.	Severe: slope, small stones.
Mirand	Severe: percs slowly, slope.	Severe: slope.	Severe: percs slowly, slope.	Severe: slope.
SbD Sedillo	Moderate: small stones.	Moderate: small stones.	Severe: slope, small stones.	Moderate: small stones.
SDD*: Sedillo	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope, small stones.

TABLE 6.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
SED*:				
Sedillo	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope, small stones.
Silva	Moderate: percs slowly.	Slight	Moderate: slope, percs slowly.	Slight.

TABLE 6.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
TrF---------- Trampas	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.
TsE---------- Trampas	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: small stones, slope.
TTF*: Trampas----------	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.
Diamante----------	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.
TVC---------- Travelers	Severe: small stones.	Severe: small stones.	Severe: depth to rock, small stones.	Severe: small stones.
UTG*: Ustorthents.				
Trampas----------	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.
VbD---------- Vibo	Slight----------	Slight----------	Severe: slope.	Slight.
WEF*: Wellsville----------	Severe:			

TABLE 7.--WILDLIFE HABITAT

[See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
AMF*:											
Amalia	Very poor.	Very poor.	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.	Fair.
Manzano	Fair	Good	Fair	---	Poor	Poor	Very poor.	Fair	---	Very poor.	Poor.
ATC*:											
Antonito	Poor	Fair	Fair	---	Fair	Poor	Very poor.	Fair	---	Very poor.	Fair.
Travelers	Very poor.	Very poor.	Fair	---	Fair	Very poor.	Very poor.	Poor	---	Very poor.	Fair.
CaB	Fair	Fair	Good	---	Fair	Fair	Fair	Fair	---	Fair	Fair.
Caruso											
CHG*:											
Chimayo	Very poor.	Very poor.	Fair	---	Fair	Very poor.	Very poor.	Poor	---	Very poor.	Fair.
Rock outcrop.											
CRG*:											
Cryoboralfs.											
Rock outcrop.											
CSC*.											
Cryoborolls											
CTC*:											
Cryoborolls.											
Cryaquolls.											
CUB*.											
Cumulic Haplaquolls											
CYB*.											
Cumulic Haploborolls											
DeF	Poor	Poor	Good	Fair	Good	Very poor.	Very poor.	Fair	Fair	Very poor.	---
Derecho											
DeG*:											
Derecho	Very poor.	Very poor.	Good	Fair	Good	Very poor.	Very poor.	Poor	Fair	Very poor.	---
Rock outcrop.											
DFG*:											
Devisadero	Very poor.	Very poor.	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Rock outcrop.											
DmF	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.	---
Diamante											

See footnote at end of table.

TABLE 7.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
EGG*:											
Eutroboralfs.											
Glossoboralfs.											
Rock outcrop.											
FaC, FbC---------- Fernando	Poor	Poor	Fair	---	Poor	Poor	Very poor.	Poor	---	Very poor.	Fair.
FeB---------- Fernando	Fair	Fair	Good	---	Poor	Good	Fair	Fair	---	Fair	---
FeC, FfC---------- Fernando	Fair	Fair	Good	---	Poor	Poor	Very poor.	Fair	---	Very poor.	---
FHB*:											
Fernando----------	Poor	Poor	Fair	---	Poor	Poor	Very poor.	Poor	---	Very poor.	Fair.
Hernandez--	Poor	Fair									

TABLE 7.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--			
	Grain	Grasses	Wild herba-	Conif-	Shrubs	Wetland	Shallow	Open- land wild-	Wood- land wild-	Wetland wild-	Range- land wild-

TABLE 7.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
MrG---------- Marosa	Very poor.	Very poor.	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.	---
MSG*, MSG2*: Marosa----------	Very	Very	Fair	Poor	Fair	Very	Very	Poor	Poor	Very	---

TABLE 7.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
OTG*:											
Orthents.											
Rock outcrop.											
PAG*:											
Paleboralfs.											
Cryochrepts.											
Rock outcrop.											
PbD, PbF---------- Penitente	Very poor.	Very poor.	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.	Fair.
PeD---------- Petaca	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
PfC*:											
Petaca----------	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Prieta----------	Very poor.	Very poor.	Fair	---	Fair	Very poor.	Very poor.	Poor	---	Very poor.	Fair.
PGC*:											
Petaca----------	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Silva----------	Poor	Poor	Fair	---	Poor	Poor	Very poor.	Poor	---	Very poor.	Fair.
Prieta----------	Very poor.	Very poor.	Fair	---	Fair	Very poor.	Very poor.	Poor	---	Very poor.	Fair.
PoB---------- Poganeab	Very poor.	Poor	Poor	Very poor.	Poor	Fair	Fair	Poor	Poor	Fair	Poor.
PrD, PrF---------- Presa	Poor	Poor	Good	Fair	Good	Very poor.	Very poor.	Fair	Fair	Very poor.	---
PrG---------- Presa	Very poor.	Very poor.	Good	Fair	Good	Very poor.	Very poor.	Poor	Fair	Very poor.	---
PSG*:											
Presa----------	Very	Very	Good	Fair	Good	Very	Very	Poor	Fair	Very	---

TABLE 7.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
RcG*. Rock outcrop											
RdG*: Rock outcrop.											
Badland.											
RPG*: Rock outcrop.											
Penitente	Very poor.	Very poor.	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.	Fair.
RRE*: Rock outcrop.											
Raton	Very poor.	Very poor.	Fair	---	Fair	Very poor.	Very poor.	Poor	---	Very poor.	Fair.
RUG*: Rock outcrop.											
Ustorthents.											
RvC Royosa	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Poor	Very poor.	Fair.
RWE*: Royosa	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Poor	Very poor.	Fair.
Orthents.											
RYD*: Royosa	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Poor	Very poor.	Fair.
Vibo	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.	Fair.
SaG*: Sabe	Very poor.	Very poor.	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.	---
Mirand	Very poor	Very poor	Good	Fair	Good	Very poor	Very poor	Poor	Fair	Very poor	---

TABLE 7.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
SgC*:											
Servilleta	Poor	Poor	Fair	---	Fair	Poor	Very poor.	Poor	---	Very poor.	Fair.
Prieta	Very	Very	Fair	---	Fair	Very	Very	Poor	---	Very	Fair.

TABLE 7.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
VbD---------- Vibo	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.	Fair.
WEF*: Wellsville--------	Poor	Fair	Fair	---	Fair	Very poor.	Very poor.	Fair	---	Very poor.	Fair.
Ess----------	Very poor.	Poor	Good	Poor	Good	---	---	Poor	Poor	---	Good.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 8.--BUILDING SITE DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
AMF*:					
Amalia	Severe: slope, small stones.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Manzano	Moderate: floods.	Severe: floods.	Severe: floods.	Severe: floods.	Moderate: floods, shrink-swell.
ATC*:					
Antonito	Severe: depth to rock.	Moderate: shrink-swell, depth to rock.	Severe: depth to rock, shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, depth to rock, low strength.
Travelers	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.
CaB---------- Caruso	Severe: floods, wetness.	Severe: floods.	Severe: floods, wetness.	Severe: floods.	Severe: floods.
CHG*:					

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
DFG*:					
Devisadero	Severe: slope, depth to rock.	Severe: slope.	Severe: slope, depth to rock.	Severe: slope.	Severe: slope.
Rock outcrop.					
DmF---- Diamante	Severe: slope, small stones.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
EGG*:					
Eutroboralfs.					
Glossoboralfs.					
Rock outcrop.					
FaC---- Fernando	Moderate: too clayey.	Moderate: shrink-swell, low strength.	Moderate: shrink-swell.	Moderate: slope, shrink-swell, low strength.	Moderate: low strength, shrink-swell.
FbC, FeB---- Fernando	Moderate: too clayey.	Moderate: shrink-swell, low strength.	Moderate: shrink-swell.	Moderate: shrink-swell, low strength.	Moderate: low strength, shrink-swell.
FeC, FfC---- Fernando	Moderate: too clayey.	Moderate: shrink-swell, low strength.	Moderate: shrink-swell.	Moderate: slope, shrink-swell, low strength.	Moderate: low strength, shrink-swell.
FHB*:					
Fernando	Moderate: too clayey.	Moderate: shrink-swell, low strength.	Moderate: shrink-swell.	Moderate: shrink-swell, low strength.	Moderate: low strength, shrink-swell.
Hernandez	Slight----	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: low strength, shrink-swell.
FLB*.					
Fluvents					
HaB---- Hernandez	Slight----	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: low strength, shrink-swell.
HKC*:					
Hernandez	Slight----	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Moderate: low strength, shrink-swell.
Kim----	Slight----	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, low strength.
HPC*:					
Hernandez	Slight----	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: low strength, shrink-swell.
Petaca----	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.

See footnote at end of table.

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
HSC*:					
Hernandez	Slight	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: low strength, shrink-swell.
Silver	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.
JaD*:					
Jaroso	Severe: small stones, too clayey.	Moderate: low strength, shrink-swell, slope.	Moderate: low strength, shrink-swell, slope.	Severe: slope.	Moderate: low strength, shrink-swell, slope.
Angostura	Severe: large stones.	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	
JaF*, JaG*:					
Jaroso	Severe: slope, small stones, too clayey.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
MxD---------- Montecito	Moderate: slope, too clayey.	Severe: low strength, shrink-swell.	Severe: low strength, shrink-swell.	Severe: low strength, shrink-swell, slope.	Severe: low strength, shrink-swell.
MxE*: Montecito--------	Severe: slope.	Severe: low strength, shrink-swell, slope.	Severe: low strength, shrink-swell, slope.	Severe: low strength, shrink-swell, slope.	Severe: low strength, shrink-swell, slope.
Rock outcrop.					
NaD---------- Nambe	Severe: large stones.	Moderate: large stones.	Moderate: large stones.	Moderate: slope, large stones.	Moderate: frost action, large stones.
NaF, NaF2, NaG, NaG2---------- Nambe	Severe: large stones, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
NRG, NRG2*: Nambe----------	Severe: large stones, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Rock outcrop.					
OeF---------- Orejas	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope, low strength.
OMD*: Orejas----------	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope, low strength.
Montecito--------	Moderate: slope, too clayey.	Severe: low strength, shrink-swell.	Severe: low strength, shrink-swell.	Severe: low strength, shrink-swell, slope.	Severe: low strength, shrink-swell.
ORG*: Orthents.					
Badland.					
OSG*: Orthents.					
Calciorthids.					
OTG*: Orthents.					
Rock outcrop.					
PAG*: Paleboralfs.					

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
PbD----------	Moderate:	Moderate:	Moderate:	Severe:	Moderate:

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
RBE*: Stunner	Slight	Moderate: low strength.	Moderate: low strength, shrink-swell.	Moderate: slope, low strength.	Moderate: shrink-swell, low strength.
RcG*. Rock outcrop					
RdG*: Rock outcrop.					

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and	Shallow	Dwellings	Dwellings	Small	Local roads

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
TrF, TsE---------- Trampas	Severe: slope, small stones.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
TTF*: Trampas----------	Severe: slope, small stones.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Diamante---------	Severe: slope, small stones.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
TVC---------- Travelers	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.
UTG*: Ustorthents.					
Trampas----------	Severe: slope, small stones.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
VbD---------- Vibo	Slight----------	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: frost action, shrink-swell, slope.	Moderate: frost action, low strength.
WEF*: Wellsville-------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Ess----------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 9.--SANITARY FACILITIES

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
AMF*:					
Amalia	Severe: slope.	Severe: slope, seepage, small stones.	Severe: slope, seepage.	Severe: slope, seepage.	Poor: slope, small stones.
Manzano	Severe: percs slowly.	Severe: floods.	Moderate: floods.	Moderate: floods.	Fair: too clayey.
ATC*:					
Antonito	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Slight	Fair: thin layer, too clayey, area reclaim.
Travelers	Severe: depth to rock.	Severe: depth to rock, large stones.	Severe: depth to rock.	Slight	Poor: thin layer, large stones, area reclaim.

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
DeG*:					

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
JaD*:					
Jaroso	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: small stones, too clayey.
Angostura	Severe: large stones.	Severe: slope, large stones, small stones.	Severe: large stones.	Moderate: slope.	Poor: large stones, area reclaim.
JaF*, JaG*:					
Jaroso	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey.	Severe: slope.	Poor: slope, small stones, too clayey.
Angostura	Severe: slope, large stones.	Severe: slope, large stones, small stones.	Severe: slope, large stones.	Severe: slope.	Poor: slope, large stones, area reclaim.
Mascarenas	Severe: percs slowly, slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.	Poor: slope, small stones.
JRG*:					
Jaroso	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey.	Severe: slope.	Poor: slope, small stones, too clayey.
Angostura	Severe: slope, large stones.	Severe: slope, large stones, small stones.	Severe: slope, large stones.	Severe: slope.	Poor: slope, large stones, area reclaim.
Rock outcrop.					
LaE Lama	Severe**: percs slowly.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Fair: slope, too clayey.
LoB Loveland	Severe: wetness, floods.	Severe: wetness, floods, seepage.	Severe: wetness, floods, seepage.	Severe: wetness, floods, seepage.	Poor: wetness, small stones.
LtC*:					
Luhon	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
Travelers	Severe: depth to rock.	Severe: depth to rock, large stones.	Severe: depth to rock.	Slight	Poor: thin layer, large stones, area reclaim.
MaF Maes	Severe: percs slowly, slope.	Severe: slope, large stones.	Severe: slope, too clayey.	Severe: slope.	Poor: slope, small stones, too clayey.
MeD*:					
Maes	Severe: percs slowly.	Severe: slope, large stones.	Severe: too clayey.	Moderate: slope.	Poor: small stones, too clayey.

See footnote at end of table.

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
MeD*:					
Etoe	Slight	Severe: slope.	Moderate: small stones.	Slight	Poor: small stones, area reclaim.
MeF*, MeG*:					
Maes	Severe: percs slowly, slope.	Severe: slope, large stones.	Severe: slope, too clayey.	Severe: slope.	Poor: slope, small stones, too clayey.
Etoe	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope, small stones, area reclaim.
MFG*:					
Maes	Severe:	Severe:	Severe:	Severe:	Poor:

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
MUG*:					
Rock outcrop.					
MwD----------	Severe:	Severe:	Severe:	Slight----------	Poor:
Mirand	percs slowly.	slope.	too clayey.		too clayey.
MxD----------	Severe:	Severe:	Moderate:	Moderate:	Fair:
Montecito	percs slowly.	slope.	small stones, too clayey.	slope.	slope, too clayey.
MxE*:					
Montecito----------	Severe:	Severe:	Moderate:	Severe:	Poor:
	percs slowly, slope.	slope.	slope, small stones, too clayey.	slope.	slope.
Rock outcrop.					
NaD----------	Moderate:	Severe:	Severe:	Severe:	Poor:
Nambe	large stones.	large stones, seepage, slope.	large stones, seepage.	seepage.	large stones.
NaF, NaF2, NaG, NaG2----------	Severe:	Severe:	Severe:	Severe:	Poor:
Nambe	slope.	large stones, seepage, slope.	large stones, seepage, slope.	seepage, slope.	large stones, slope.
NRG*, NRG2*:					
Nambe----------	Severe:	Severe:	Severe:	Severe:	Poor:
	slope.	large stones, seepage, slope.	large stones, seepage, slope.	seepage, slope.	large stones, slope.
Rock outcrop.					
OeF----------	Severe:	Severe:	Severe:	Severe:	Poor:
Orejas	depth to rock, percs slowly, slope.	depth to rock, slope.	depth to rock, slope.	slope.	slope, thin layer, area reclaim.
OMD*:					
Orejas----------	Severe:	Severe:	Severe:	Severe:	Poor:
	depth to rock, percs slowly, slope.	depth to rock, slope.	depth to rock.	slope.	slope, thin layer, area reclaim.
Montecito----------	Severe:	Severe:	Moderate:	Moderate:	Fair:
	percs slowly.	slope.	small stones, too clayey.	slope.	slope, too clayey.
ORG*:					
Orthents.					
Badland.					
OSG*:					
Orthents.					
Calciorthids.					
OTG*:					
Orthents.					
Rock outcrop.					

See footnote at end of table.

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
PAG*: Paleboralfs. Cryochrepts. Rock outcrop.					
PbD---- Penitente	Moderate: slope.	Severe: seepage, slope, small stones.	Severe: seepage.	Severe: seepage.	Poor: small stones.
PbF---- Penitente	Severe: slope	Severe: seepage	Severe: seepage	Severe: seepage	Poor: slope

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
PYF*:					
Presa	Severe: slope.	Severe: seepage, slope, small stones.	Severe: seepage, slope, large stones.	Severe: slope, seepage.	Poor: slope, small stones.
Cryaquolls.					
RaC	Severe: percs slowly, depth to rock, large stones.	Severe: depth to rock, large stones.	Severe: too clayey, depth to rock, large stones.	Slight	Poor: thin layer, large stones, area reclaim.
Raton					
RBE*:					
Raton	Severe: slope, percs slowly, depth to rock.	Severe: slope, depth to rock, large stones.	Severe: depth to rock, large stones, slope.	Severe: slope.	Poor: slope, thin layer, large stones.
Stunner	Severe: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
RcG*.					
Rock outcrop					
RdG*:					
Rock outcrop.					
Badland.					
RPG*:					
Rock outcrop.					
Penitente	Severe: slope.	Severe: seepage, slope, small stones.	Severe: seepage.	Severe: seepage, slope.	Poor: slope, small stones.
RRE*:					
Rock outcrop.					
Raton	Severe: slope, percs slowly, depth to rock.	Severe: slope, depth to rock, large stones.	Severe: too clayey, depth to rock, large stones.	Severe: slope.	Poor: slope, thin layer, large stones.
RUG*:					
Rock outcrop.					
Ustorthents.					
RvC	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Poor: seepage, too sandy.
Royosa					
RWE*:					
Royosa	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Poor: seepage, too sandy.
Orthents.					

See footnote at end of table.

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
RYD*:					
Royosa	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Poor: seepage, too sandy.
Vibo	Moderate: slope.	Severe: slope.	Severe: seepage.	Moderate: slope.	Fair: slope.
SaG*:					
Sabe	Severe: slope.	Severe: slope, seepage, large stones.	Severe: slope, too sandy, large stones.	Severe: slope, seepage.	Poor: slope, small stones, too sandy.
Mirand	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey.	Severe: slope.	Poor: slope, too clayey.
SbD Sedillo	Slight	Severe: slope, seepage, small stones.	Severe: seepage.	Severe: seepage.	Poor: small stones.
SDD*:					
Sedillo	Severe: slope.	Severe: slope, seepage, small stones.	Severe: seepage.	Severe: slope, seepage.	Poor: small stones, slope.
Orthents.					
SED*:					
Sedillo	Severe: slope.	Severe: slope, seepage, small stones.	Severe: seepage.	Severe: slope, seepage.	Poor: small stones, slope.
Silva	Severe: percs slowly.	Moderate: slope.	Moderate: too clayey.	Slight	Fair: too clayey.
SgC*:					
Servilleta	Severe: depth to rock, percs slowly.	Severe: depth to rock.	Severe: depth to rock.	Slight	Poor: area reclaim, thin layer.
Prieta	Severe: percs slowly, depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Slight	Poor: thin layer, large stones, area reclaim.
ShB Shawa	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
SmB Silva	Severe: percs slowly.	Slight	Moderate: too clayey.	Slight	Fair: too clayey.
SnB	Severe:	Moderate:	Moderate:	Slight	Fair:

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
StC---------- Stunner	Moderate: percs slowly.	Moderate: seepage, slope.	Slight----------	Slight----------	Good.
SUC*: Stunner----------	Moderate: percs slowly.	Moderate: seepage, slope.	Slight----------	Slight----------	Good.
Lyhon----------	Moderate:	Moderate:	Moderate:	Slight----------	Fair:

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
WEF*:					
Wellsville	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.	Poor: slope.
Ess	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope, large stones.

* See description of the map unit for composition and behavior characteristics of the map unit.
** The limitation is slight if the subsurface tiles or perforated pipe are placed below a depth of about 48 inches.

TABLE 10.--CONSTRUCTION MATERIALS

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and "poor." Absence of an entry indicates that the soil was not rated]

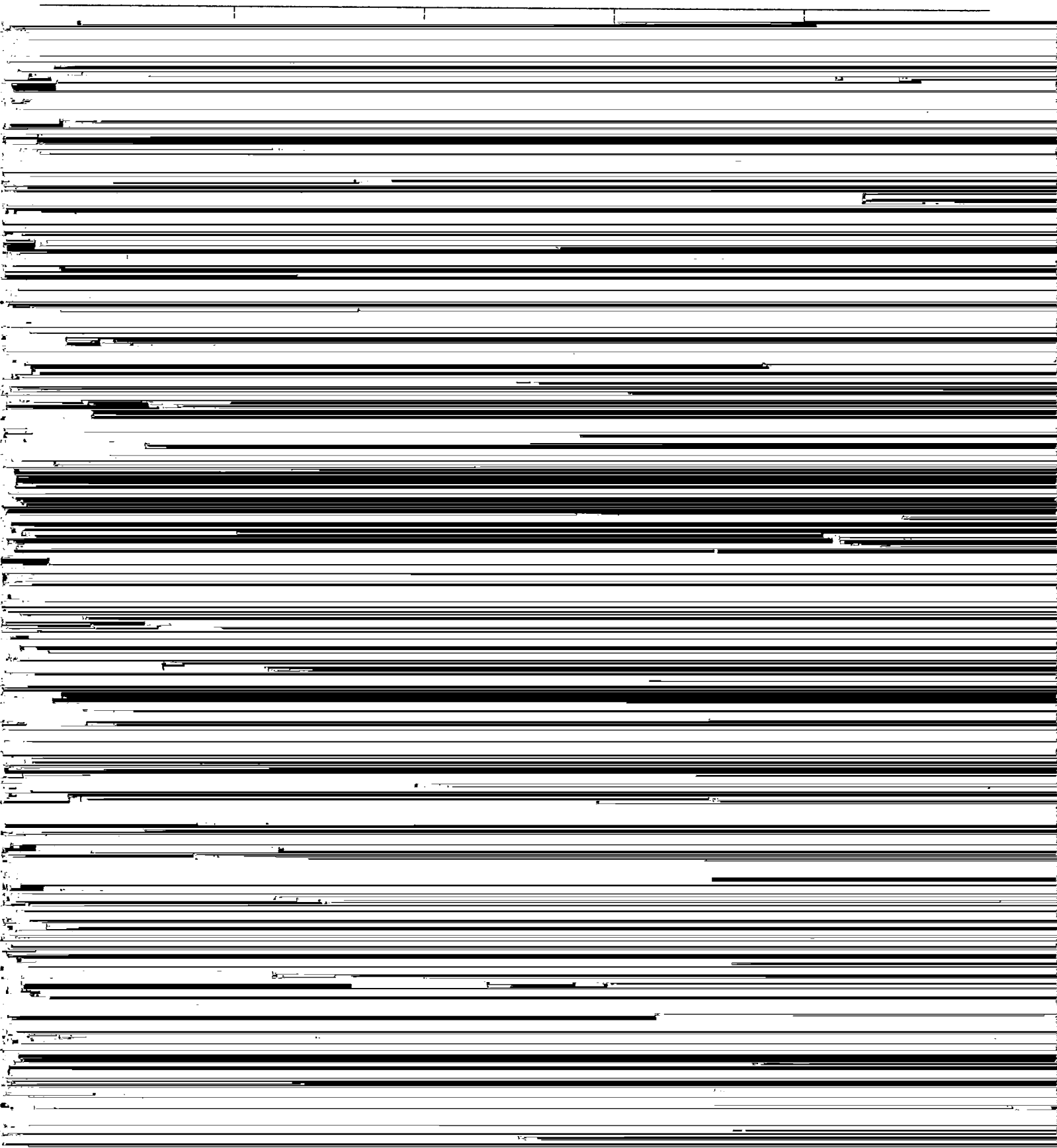

TABLE 10.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
DFG*:				
Devisadero	Poor: slope, thin layer, area reclaim.	Unsuited: thin layer.	Unsuited: thin layer.	Poor: slope, small stones.
Rock outcrop.				
DmF Diamante	Poor: slope.	Unsuited	Unsuited	Poor: slope, small stones.
EGG*:				
Eutroboralfs.				
Glossoboralfs.				
Rock outcrop.				
FaC, FbC, FeB, FeC, FfC Fernando	Fair: low strength, shrink-swell.	Unsuited	Unsuited	Fair: too clayey.
FHB*:				
Fernando	Fair: low strength, shrink-swell.	Unsuited	Unsuited	Fair: too clayey.
Hernandez	Fair: low strength, shrink-swell.	Unsuited	Unsuited	Fair: too clayey.
FLB*.				
Fluvents				
HaB Hernandez	Fair: low strength, shrink-swell.	Unsuited	Unsuited	Fair: small stones, too clayey.
HKC*:				
Hernandez	Fair: low strength, shrink-swell.	Unsuited	Unsuited	Fair: too clayey.
Kim	Fair: low strength, shrink-swell.	Unsuited	Unsuited	Good.
HPC*:				
Hernandez	Fair: low strength, shrink-swell.	Unsuited	Unsuited	Fair: too clayey.
Petaca	Poor: area reclaim, thin layer.	Unsuited: thin layer.	Unsuited: thin layer.	Poor: area reclaim, large stones.
HSC*:				
Hernandez	Fair:	Unsuited	Unsuited	Fair: small stones

TABLE 10.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
JaD*:				
Jaroso	Fair: low strength, shrink-swell.	Unsuited	Unsuited	Poor: small stones.
Angostura	Poor: large stones, area reclaim.	Unsuited	Unsuited	Poor: large stones, small stones.
JaF*, JaG*:				
Jaroso	Poor: slope.	Unsuited	Unsuited	Poor: slope, small stones.
Angostura	Poor: slope, large stones, area reclaim.	Unsuited	Unsuited	Poor: slope, large stones, small stones.
Mascarenas	Poor: slope.	Unsuited	Unsuited	Poor: slope, small stones.
JRG*:				
Jaroso	Poor: slope.	Unsuited	Unsuited	Poor: slope, small stones.
Angostura	Poor: slope, large stones, area reclaim.	Unsuited	Unsuited	Poor: slope, large stones, small stones.
Rock outcrop.				
LaE Lama	Poor: low strength, shrink-swell.	Fair: excess fines, large stones.	Fair: excess fines, large stones.	Poor: thin layer.
LoB Loveland	Poor: wetness, frost action.	Good	Good	Fair: too clayey, wetness.
LtC*:				
Luhon	Fair: low strength.	Unsuited	Unsuited	Fair: thin layer.
Travelers	Poor: thin layer.	Unsuited	Unsuited	Poor: large stones, small stones.
MaF Maes	Poor: low strength, slope.	Unsuited	Unsuited	Poor: slope, small stones.
MeD*:				
Maes	Poor: low strength.	Unsuited	Unsuited	Poor: small stones.
Etoe	Fair: frost action.	Unsuited	Poor: excess fines, large stones.	Poor: small stones, area reclaim.
MeF*, MeG*:				
Maes	Poor: low strength, slope.	Unsuited	Unsuited	Poor: slope, small stones.

See footnote at end of table.

TABLE 10.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
MeF*, MeG*: Etoe	Poor: slope.	Unsuited	Poor: excess fines, large stones.	Poor: slope, small stones, area reclaim.
MFG*: Maes	Poor: low strength,	Unsuited	Unsuited	Poor: slope,

TABLE 10.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
NaD---------- Nambe	Fair: area reclaim, frost action, large stones.	Unsuited: large stones.	Unsuited: large stones.	Poor: large stones, small stones.
NaF, NaF2, NaG, NaG2-- Nambe	Poor:	Unsuited:	Unsuited:	Poor:

TABLE 10.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
PfC*:				
Petaca	Poor: area reclaim, thin layer.	Unsuited: thin layer.	Unsuited: thin layer.	Poor: area reclaim, large stones.
Prieta	Poor: thin layer, low strength, area reclaim.	Unsuited	Unsuited	Poor: large stones, small stones, area reclaim.
PGC*:				
Petaca	Poor: area reclaim, thin layer.	Unsuited: thin layer.	Unsuited: thin layer.	Poor: area reclaim, large stones.
Silva	Poor: low strength, shrink-swell.	Unsuited	Unsuited	Poor: thin layer.
Prieta	Poor: thin layer, low strength, area reclaim.	Unsuited	Unsuited	Poor: large stones, small stones, area reclaim.
Po	Poor: wetness, frost action, low strength.	Unsuited	Unsuited	Poor: wetness, excess salt.
Poganeab				
PrD	Fair: frost action, large stones.	Unsuited	Unsuited	Poor: small stones.
Presa				
PrF, PrG	Poor: slope.	Unsuited	Unsuited	Poor: slope, small stones.
Presa				
PSG*:				
Presa	Poor: slope.	Unsuited	Unsuited	Poor: slope, small stones.
Rock outcrop.				
PYF*:				
Presa	Poor: slope.	Unsuited	Unsuited	Poor: slope, small stones.
Cryaquolls.				
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE 10.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
RdG*:				
Rock outcrop.				
Badland.				
RPG*:				
Rock outcrop.				
Penitente	Fair: frost action, slope.	Unsuited	Unsuited	Poor: small stones, slope.
RRE*:				
Rock outcrop.				
Raton	Poor: large stones, shrink-swell, thin layer.	Unsuited: thin layer.	Unsuited: thin layer.	Poor: slope, large stones, area reclaim.
RUG*:				
Rock outcrop.				
Ustorthents.				
RvC	Good	Poor: excess fines.	Unsuited	Poor: too sandy.
Royosa				
RWE*:				
Royosa	Good	Poor: excess fines.	Unsuited	Poor: too sandy.
Orthents.				
RYD*:				
Royosa	Good	Poor: excess fines.	Unsuited	Poor: too sandy.
Vibo	Fair: frost action, low strength, shrink-swell.	Poor: excess fines.	Unsuited	Fair: slope, too clayey.
SaG*:				
Sabe	Poor: slope.	Fair: excess fines, large stones.	Fair: excess fines, large stones.	Poor: small stones, slope, too sandy.
Mirand	Poor: low strength, shrink-swell, slope.	Unsuited	Unsuited	Poor: slope, too clayey.
SbD	Good	Poor: excess fines.	Fair: excess fines.	Poor: small stones.
Sedillo				
SDD*:				
Sedillo	Fair: slope.	Poor: excess fines.	Fair: excess fines.	Poor: slope, small stones.
Orthents.				

See footnote at end of table.

TABLE 10.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil

TABLE 10.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
TTF*:				
Trampas	Poor: slope.	Unsuited	Unsuited	Poor: slope, small stones.
Diamante	Poor: slope.	Unsuited	Unsuited	Poor: slope, small stones.
TVC: Travelers	Poor: thin layer.	Unsuited	Unsuited	Poor: large stones, small stones.
UTG*: Ustorthents.				
Trampas	Poor: slope.	Unsuited	Unsuited	Poor: slope, small stones.
VbD	Fair:	Poor:	Unsuited	Fair:

TABLE 11.--WATER MANAGEMENT

[Some terms that describe restrictive soil features are defined in the Glossary. Absence of an entry indicates that the soil was not evaluated]

Soil name and map symbol	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions
AMF*:						
Amalia	Seepage, slope.	Seepage	No water	Slope	Droughty, slope.	Slope, small stones.
Manzano	Slope	Low strength	No water	Complex slope, percs slowly.	Complex slope	Favorable.
ATC*:						
Antonito	Depth to rock	Low strength, piping, thin layer.	No water	Depth to rock	Rooting depth, droughty, erodes easily.	Depth to rock.
Travelers	Depth to rock, slope.	Thin layer, large stones, piping.	No water			Slope, large stones, depth to rock.
CaB---------- Caruso	Favorable	Low strength	Favorable	Floods, wetness.	Floods	Floods.
CHG*:						
Chimayo	Slope, depth to rock.	Thin layer, large stones.	No water	Depth to rock, slope.	Droughty, rooting depth, slope.	Slope, depth to rock.
Rock outcrop.						
CRG*:						
Cryoboralfs.						
Rock outcrop.						
CSC*.						
Cryoborolls.						
CTC*:						
Cryoborolls.						
Cryaquolls.						
CUB*.						

TABLE 11.--WATER MANAGEMENT--Continued

Soil name and map symbol	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions
DmF---------- Diamante	Slope----------	Piping---------	No water-------			Slope, small stones.
EGG*: Eutroboralfs.						
Glossoboralfs.						
Rock outcrop.						
FaC, FbC---------- Fernando	Slope----------	Low strength, piping.	No water-------	Slope, percs slowly.	Erodes easily, slope.	Erodes easily, piping.
FeB---------- Fernando	Slope----------	Low strength, piping.	No water-------	Not needed-----	Erodes easily, slope.	Erodes easily, piping.
FeC, FfC---------- Fernando	Slope----------	Low strength, piping.	No water-------	Slope, percs slowly.	Erodes easily, slope.	Erodes easily, piping.
FHB*: Fernando---------	Slope----------	Low strength, piping.	No water-------	Slope----------	Erodes easily, slope.	Erodes easily, piping.
Hernandez--------	Seepage, slope.	Low strength---	No water-------	Slope----------	Erodes easily, soil blowing, slope.	Favorable.
FLB*. Fluvents.						
HaB---------- Hernandez	Seepage, slope.	Low strength---	No water-------	Slope----------	Erodes easily, soil blowing, slope.	Favorable.
HKC*: Hernandez--------	Seepage, slope.	Low strength---	No water-------	Slope----------	Erodes easily, soil blowing, slope.	Favorable.
Kim----------	Seepage, slope.	Piping, low strength.	No water-------	Slope----------	Slope----------	Slope, piping.
HPC*:						

TABLE 11.--WATER MANAGEMENT--Continued

Soil name and map symbol	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions
JaF*, JaG*:						
Angostura	Slope	Large stones, piping.	No water	Slope	Droughty, slope.	Slope, large stones.
Mascarenas	Slope	Favorable	No water	Slope	Droughty, slope.	Slope, small stones.
JRG*:						
Jaroso	Slope	Low strength, piping.	No water	Slope	Droughty, slope.	Slope, small stones.
Angostura	Slope	Large stones, piping.	No water	Slope	Droughty, slope.	Slope, large stones.
Rock outcrop.						
LaE Lama	Slope	Low strength, hard to pack.	No water			Erodes easily, percs slowly, slope.
LoB Loveland	Seepage	Piping, low strength.	Favorable	Floods, wetness.	Wetness, floods.	Wetness.
LtC*:						
Luhon	Slope, seepage.	Piping, low strength, hard to pack.	No water	Slope, excess salts, percs slowly.	Slope, excess sodium, excess salts.	Percs slowly.
Travelers	Depth to rock, slope.	Thin layer, large stones, piping.	No water			Slope, large stones, depth to rock.
MaF Maes	Slope	Low strength, large stones.	No water	Slope	Droughty, slope.	Slope, small stones.
MeD*, MeF*, MeG*:						
Maes	Slope	Low strength, large stones.	No water	Slope	Droughty. slope.	Slope, small stones.
Etoe	Slope	Piping	No water	Slope	Droughty, slope.	Piping, slope, small stones.
MFG*:						
Maes	Slope	Low strength, large stones.	No water	Slope	Droughty, slope.	Slope, small stones.
Etoe	Slope	Piping	No water	Slope	Droughty, slope.	Piping, slope, small stones.
Rock outcrop.						
MNC Manzano	Slope	Low strength	No water	Complex slope, percs slowly.	Complex slope, percs slowly.	Favorable.
MnA Manzano	Favorable	Low strength	No water	Complex slope, percs slowly.	Complex slope, percs slowly.	Favorable.
MnB, MnC Manzano	Slope	Low strength	No water	Complex slope, percs slowly.	Complex slope, percs slowly.	Favorable.
MrD, MrF, MrG Marosa	Slope	Favorable	No water	Slope	Droughty, slope.	Slope, small stones.
MSG*, MSG2*:						
Marosa	Slope	Favorable	No water	Slope	Droughty, slope.	Slope, small stones.

See footnote at end of table.

TABLE 11.--WATER MANAGEMENT--Continued

Soil name and map symbol	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions
MSG*, MSG2*: Rock outcrop.						
MTE*: Marosa	Slope	Favorable	No water	Slope	Droughty, slope.	Slope, small stones.
MTE*: Nambe	Seepage, slope.	Large stones, piping.	No water	Slope	Large stones, droughty, slope.	Slope, large stones.
MUG*: Mirabal	Depth to rock, seepage, slope.	Thin layer, seepage, piping.	No water	Slope, depth to rock.	Droughty, rooting depth, slope.	Depth to rock, slope.
Rock outcrop.						
MwD---- Mirand	Slope	Hard to pack, low strength.	No water	Percs slowly, slope.	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.
MxD---- Montecito	Slope	Low strength, hard to pack.	No water	Percs slowly, slope.	Slope, slow intake, soil blowing.	Erodes easily, percs slowly, slope.
MxE*: Montecito	Slope, seepage.	Low strength, hard to pack.	No water	Percs slowly, slope.	Slope, slow intake, soil blowing.	Erodes easily, percs slowly, slope.
Rock outcrop.						
NaD---- Nambe	Seepage, slope.	Large stones, piping.	No water	Slope	Large stones, droughty, slope.	Large stones.
NaF, NaF2, NaG, NaG2---- Nambe	Seepage, slope.	Large stones, piping.	No water	Slope	Large stones, droughty, slope.	Slope, large stones.
NRG*, NRG2*: Nambe	Seepage, slope.	Large stones, piping.	No water	Slope	Large stones, droughty, slope.	Slope, large stones.
Rock outcrop.						
OcE	Depth to rock	Depth to rock	No water			

TABLE 11.--WATER MANAGEMENT--Continued

Soil name and map symbol	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions
OSG*:						
Orthents.						
Calciorthids.						
OTG*:						
Orthents.						
Rock outcrop.						
PAG*:						
Paleboralfs.						
Cryochrepts.						
Rock outcrop.						
PbD, PbF---------- Penitente	Seepage, slope.	Large stones, seepage.	No water-------	Slope----------	Droughty, slope.	Small stones, slope.
PeD---------- Petaca	Depth to rock, slope.	Depth to rock	No water-------			Depth to rock, slope.
PfC*:						
Petaca----------	Depth to rock	Depth to rock	No water-------			Depth to rock, slope.
Prieta----------	Depth to rock, slope.	Thin layer, large stones, piping.	No water-------	Depth to rock--	Droughty, rooting depth.	Depth to rock, large stones, piping.
PGC*:						
Petaca----------	Depth to rock	Depth to rock	No water-------			Depth to rock, slope.
Silva----------	Slope----------	Low strength---	No water-------	Percs slowly, slope.	Percs slowly, slope.	Percs slowly.
Prieta						

TABLE 11.--WATER MANAGEMENT--Continued

Soil name and map symbol	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions
RBE*:						
Raton	Slope, depth to rock.	Large stones, thin layer.	No water	Slope, depth to rock.	Large stones, droughty, rooting depth.	Depth to rock, slope, large stones.
Stunner	Slope, seepage.	Low strength, piping.	No water	Favorable	Small stones	Slope, piping.
RcG*.						
Rock outcrop						
RdG*:						
Rock outcrop.						
Badland.						
RPG*:						
Rock outcrop.						
Penitente	Seepage, slope.	Large stones, seepage.	No water	Slope	Droughty, slope.	Small stones, slope.
RRE*:						
Rock outcrop.						
Raton	Slope, depth to rock.	Large stones, thin layer.	No water	Slope, depth to rock.	Large stones, droughty, rooting depth.	Depth to rock, slope, large stones.
RUG*:						
Rock outcrop.						
Ustorthents.						
RvC Royosa	Seepage, slope.	Piping, seepage.	No water	Favorable	Droughty, fast intake, soil blowing.	Complex slope, soil blowing.
RWE*:						
Royosa	Seepage, slope.	Piping, seepage.	No water	Favorable	Droughty, fast intake, soil blowing.	Complex slope, soil blowing.
Orthents.						
RYD*:						
Royosa	Seepage, slope.	Piping, seepage.	No water	Favorable	Droughty, fast intake, soil blowing.	Complex slope, soil blowing.
Vibo	Seepage, slope.	Low strength, piping.	No water	Slope	Erodes easily, slope, soil blowing.	Erodes easily, slope.
SaG*:						
Sabe	Seepage, slope.	Large stones, seepage.	No water	Slope	Droughty, slope.	Large stones, slope, too sandy.
Mirand	Slope	Hard to pack, low strength.	No water	Percs slowly, slope.	Erodes easily, percs slowly, slope.	Erodes easily, percs slowly, slope.
SbD Sedillo	Slope, seepage.	Seepage	No water	Slope	Droughty, slope.	Slope, small stones.

See footnote at end of table.

TABLE 11.--WATER MANAGEMENT--Continued

Soil name and map symbol	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions
SDD*:						
Sedillo	Slope, seepage.	Seepage	No water	Slope	Droughty, slope.	Slope, small stones.
Orthents.						
SED*:						
Sedillo	Slope, seepage.	Seepage	No water	Slope	Droughty, slope.	Slope, small stones.
Silva	Slope	Low strength	No water	Percs slowly, slope.	Percs slowly, slope.	Percs slowly.
SgC*:						
Servilleta	Depth to rock	Low strength, depth to rock.	No water	Depth to rock, percs slowly.	Percs slowly, rooting depth, slow intake.	Depth to rock, percs slowly.
Prieta	Depth to rock, slope.	Thin layer, large stones, piping.	No water	Depth to rock	Droughty, rooting depth.	Depth to rock, large stones, piping.
ShB	Seepage	Low strength, piping.	Deep to water	Slope, poor outlets.	Slope	Piping.
Shawa						
SmB	Favorable	Low strength	No water	Percs slowly, slope.	Percs slowly, slope.	Percs slowly.
Silva						
SmD	Slope	Low strength	No water	Percs slowly, slope.	Percs slowly, slope.	Percs slowly.
Silva						
SSC*:						
Silva	Slope	Low strength	No water	Percs slowly, slope.	Percs slowly, slope.	Percs slowly.
Sedillo	Slope, seepage.	Seepage	No water	Slope	Droughty, slope.	Slope, small stones.
StC	Slope, seepage.	Low strength, piping.	No water	Slope	Small stones	Slope, piping.
Stunner						
SUC*:						
Stunner	Slope, seepage.	Low strength, piping.	No water	Slope	Slope	Slope, piping.
Luhon	Slope, seepage.	Piping, low strength, hard to pack.	No water	Slope, excess salts, percs slowly.	Slope, excess sodium, excess salts.	Percs slowly.
SVC*:						
Stunner	Slope, seepage.	Low strength, piping.	No water	Favorable	Small stones	Slope, piping.
Travelers	Depth to rock, slope.	Thin layer, large stones, piping.	No water			Slope, large stones, depth to rock.
Luhon	Slope, seepage.	Piping, low strength,	No water	Slope, excess salts,	Slope, excess sodium,	Percs slowly.

TABLE 11.--WATER MANAGEMENT--Continued

Soil name and map symbol	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions
TrF, TsE---------- Trampas	Slope, seepage.	Piping, low strength.	No water--------	Slope----------	Droughty, slope.	Slope, small stones.
TTF*: Trampas----------	Slope, seepage.	Piping, low strength.	No water--------	Slope----------	Droughty, slope.	Slope, small stones.
Diamante---------	Slope----------	Piping---------	No water--------			Slope, small stones.
TVC---------- Travelers	Depth to rock	Thin layer, large stones, piping.	No water--------			Large stones, depth to rock.
UTG*: Ustorthents.						
Trampas----------	Slope, seepage.	Piping, low strength.	No water--------	Slope----------	Droughty, slope.	Slope, small stones.
VbD---------- Vibo	Seepage, slope.	Low strength, piping.	No water--------	Slope----------	Erodes easily, slope, soil blowing.	Erodes easily, slope.
WEF*: Wellsville-------	Seepage, slope.	Low strength---	No water--------			Piping, slope.
Ess----------	Slope, seepage.	Low strength, large stones.	No water--------			Piping, slope.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS

[The symbol > means more than. Absence of an entry indicates that data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
AMF*:											
Amalia	0-3	Very gravelly loam.	GM-GC, GC	A-1, A-2	0	40-50	35-45	30-45	20-35	25-35	5-15
	3-17	Very gravelly clay loam.	GC	A-2	0	30-45	25-40	20-40	10-30	25-35	10-15
	17-60	Very gravelly sandy loam.	GW-GM, GP-GM	A-1	0	20-35	15-30	10-20	5-10	20-25	NP-5
Manzano	0-10	Clay loam	CL	A-6	0	100	100	90-100	75-85	30-40	10-15
	10-60	Clay loam	CL-ML, CL	A-4, A-6	0	100	100	85-100	60-85	25-40	5-15
ATC*:											
Antonito	0-3	Loam	ML, CL-ML, CL	A-4	0	100	100	85-95	60-85	25-35	5-10
	3-16	Clay loam	ML, CL	A-6	0	100	100	90-100	70-85	35-40	10-15
	16-25	Loam	ML, CL-ML	A-4	0	100	100	85-95	60-75	25-35	5-10
	25	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
DeF---------- Derecho	0-12	Cobbly loam-----	GM-GC, GC, CL-ML, CL	A-2, A-4, A-6	0-25	55-75	50-70	40-70	20-55	25-35	5-15
	12-51	Very cobbly clay loam, extremely cobbly clay, extremely stony clay.	GC	A-7, A-2,	30-75	35-55	30-50	30-50	25-45	40-55	15-30
	51-60	Extremely stony sandy clay loam	GC	A-2	45-75	30-50	25-45	20-45	10-35	25-40	10-15
DeG*: Derecho----------	0-17	Cobbly loam-----	GM-GC, GC, CL-ML, CL	A-2, A-4, A-6	10-55	55-75	50-70	40-70	20-55	25-35	5-15
	17-60	Very cobbly	GC	A-7, A-2	30-75	35-55	30-50	30-50	25-45	40-55	15-30

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
FeC---------- Fernando	0-7	Clay loam--------	ML, CL-ML	A-4	0	100	100	85-100	60-80	25-35	5-10
	7-25	Silty clay loam-	CL-ML, CL	A-4, A-6	0	95-100	100	90-100	60-80	25-40	5-15
	25-60	Silt loam--------	ML, CL-ML	A-4	0	95-100	100	90-100	60-80	25-35	5-10
FfC---------- Fernando	0-5	Clay loam--------	ML, CL-ML	A-4	0	100	100	85-100	60-80	25-35	5-10
	5-19	Silty clay loam-	CL-ML, CL	A-4, A-6	0	95-100	100	90-100	60-80	25-40	5-15
	19-60	Silt loam--------	ML, CL-ML	A-4	0	95-100	100	90-100	60-80	25-35	5-10
FHB*:											
Fernando----------	0-2	Clay loam--------	ML, CL-ML	A-4	0	100	100	85-100	60-80	25-35	5-10
	2-27	Silty clay loam-	CL-ML, CL	A-4, A-6	0	95-100	100	90-100	60-80	25-40	5-15
	27-60	Silt loam--------	ML, CL-ML	A-4	0	95-100	100	90-100	60-80	25-35	5-10
Hernandez---------	0-4	Loam-------------	CL-ML, ML	A-4	0	80-100	80-100	70-100	50-80	25-35	5-10
	4-14	Clay loam--------	CL	A-4, A-6	0	80-100	80-100	70-100	55-80	25-40	5-15
	14-60	Clay loam--------	SM-SC, SC	A-4, A-6	0-15	65-95	60-90	50-90	35-50	25-40	5-15
FLB*. Fluvents											
HaB---------- Hernandez	0-10	Gravelly loam----	SM-SC, CL-ML	A-4	0	75-85	70-75	60-75	45-60	20-35	5-10
	10-15	Clay loam--------	CL	A-4, A-6	0	80-100	80-100	70-100	55-80	25-40	5-15
	15-60	Gravelly sandy clay loam.	SM-SC, SC	A-4, A-6	0-15	65-95	60-90	50-90	35-50	25-40	5-15
HKC*:											
Hernandez---------	0-4	Loam-------------	CL-ML, ML	A-4	0	80-100	80-100	70-100	50-80	25-35	5-10
	4-14	Clay loam--------	CL	A-4, A-6	0	80-100	80-100	70-100	60-80	25-40	5-15
	14-60	Clay loam--------	SM-SC, SC	A-2, A-4,	0-15	65-95	60-90	50-90	35-50	25-40	5-15

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

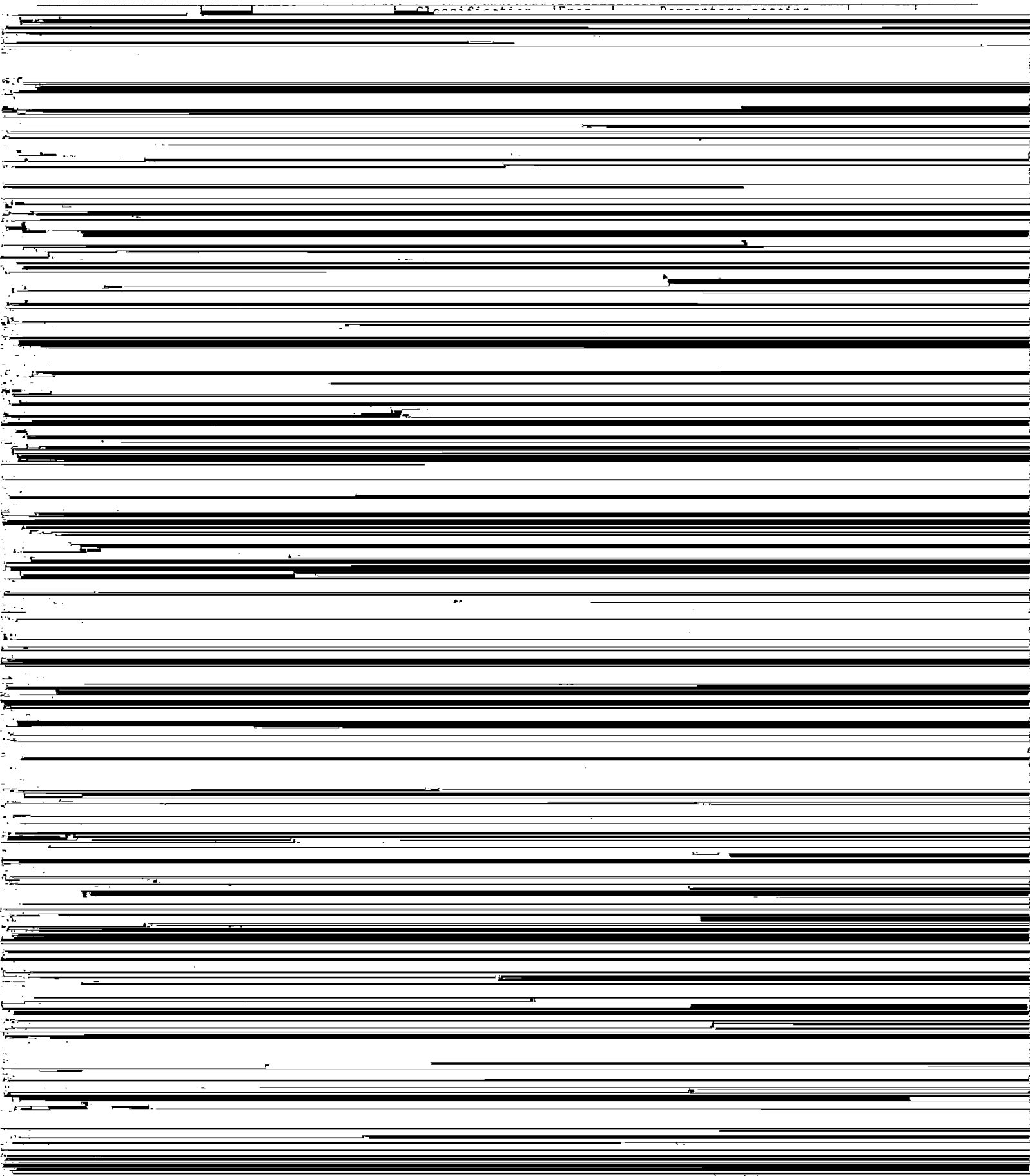

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
JRG*:											
Jaroso	0-16	Cobbly loam	SM, ML	A-2, A-4	25-40	75-95	70-90	45-85	25-65	20-30	NP-5
	16-41	Cobbly clay loam, cobbly clay.	GC, CL, CH	A-2, A-6, A-7	15-50	55-75	50-65	40-60	30-55	35-55	15-30
	41-60	Very cobbly clay, very cobbly sandy clay.	GC	A-2, A-6, A-7	15-50	35-55	30-50	25-50	15-45	35-55	15-30
Angostura	0-10	Cobbly loam	ML, SM	A-2, A-4	15-40	80-100	75-95	50-85	25-65	20-30	NP-5
	10-60	Very cobbly sandy clay loam	SC	A-2, A-6	15-40	65-90	50-85	35-80	20-50	25-30	10-15
Rock outcrop.											
LaE	0-7	Loam	CL-ML, CL	A-4, A-6	0	90-100	85-100	75-95	55-75	25-35	5-15
Lama	7-30	Clay loam, gravelly clay.	CL, CH	A-7	0	70-100	65-100	60-90	50-85	40-55	15-30
	30-41	Very cobbly sandy clay.	GC, SC	A-2	15-30	40-60	35-55	30-50	20-35	40-50	15-25
	41-48	Extremely gravelly sandy clay loam.	GW-GC, GC, GM-GC	A-1, A-2	15-30	25-50	20-45	15-40	10-25	25-35	5-15
	48-60	Extremely gravelly loamy sand.	GW, GW-GM, GM.	A-1	15-30	20-50	15-45	10-35	0-15	---	NP

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
MeF*:											
Maes	0-2	Cobbly loam	SM, ML	A-4	15-25	85-95	80-90	60-85	35-65	20-30	NP-5
	2-16	Very cobbly	SM, ML	A-2, A-4	20-45	75-95	70-90	45-85	25-65	20-30	NP-6

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
MxD---------- Montecito	0-6	Loam----------	SM-SC, SM, CL-ML, ML	A-4	0	100	100	70-95	40-75	25-35	5-10
	6-30	Clay loam, gravelly clay loam.	CL, CH	A-6, A-7	0-10	85-100	80-100	75-100	60-95	35-55	15-30
	30-60	Very gravelly sandy loam, extremely gravelly sandy clay loam.	SM, SC, CL, SM-SC	A-2, A-4, A-6	20-40	40-95	35-90	30-70	15-60	20-40	NP-20
MxE*: Montecito---------	0-5	Loam----------	SM-SC, SM, CL-ML, ML	A-4	0	100	100	70-95	40-75	25-35	5-10
	5-35	Clay loam-------	CL, CH	A-6, A-7	0-10	85-100	80-100	75-100	60-95	35-55	15-30
	35-60	Gravelly loam---	SM. SC.	A-2.	20-40	40-95	35-90	30-70	15-60	20-40	NP-20

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
NRG*:											
Nambe	0-5	Cobbly loam	SM, SM-SC	A-4, A-2, A-1	25-40	50-80	40-70	35-55	15-50	25-35	5-10
	5-16	Very cobbly sandy loam.	SM	A-2, A-4, A-1	40-60	75-85	65-75	40-50	15-40	30-40	5-10
	16-60	Very stony sandy loam, very cobbly sandy loam.	SM	A-1, A-2	40-85	75-85	65-75	40-50	15-35	---	NP
Rock outcrop.											
NRG2*:											
Nambe	0-16	Very cobbly sandy loam.	SM, SM-SC	A-4, A-2, A-1	25-40	50-80	40-70	35-55	15-50	25-35	5-10
	16-60	Very stony sandy loam.	SM	A-1, A-2	40-60	75-85	65-75	40-50	15-35	---	NP
Rock outcrop.											
OeF	0-2	Very stony loam-	GM-GC, GC,	A-4	15-65	40-65	35-60	30-55	20-40	25-40	5-15
Orejas	2-14	Cobbly clay loam, very gravelly clay loam.	GC, SC	A-2, A-6, A-7	0-50	25-55	20-50	20-45	15-30	35-55	15-30
	14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
OMD*:											
Orejas	0-2	Very stony loam-	GM-GC, GC	A-4	15-65	40-65	35-60	30-55	20-40	25-40	5-10
	2-16	Cobbly clay loam, very gravelly clay loam.	GC, SC	A-2, A-6, A-7	0-50	25-55	20-50	20-45	15-30	35-55	15-30
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Montecito	0-6	Loam	SM-SC, SM, CL-ML, ML	A-4	0	100	100	70-95	40-75	25-35	5-10
	6-30	Clay loam, clay, gravelly clay loam.	CL, CH	A-6, A-7	0-10	85-100	80-100	75-100	60-95	35-55	15-30
	30-60	Very gravelly sandy loam, cobbly sandy loam, cobbly clay loam.	SM, SC, CL, SM-SC	A-2, A-4, A-6	20-40	40-95	35-90	30-70	15-60	20-40	NP-20
ORG*:											
Orthents.											
Badland.											
OSG*:											
Orthents.											
Calciorthids.											

See footnote at end of table.

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
OTG*:											
Orthents.											
Rock outcrop.											
PAG*:											
Paleboralfs.											
Cryochrepts.											
Rock outcrop.											
PbD, PbF----------	0-4	Gravelly loam, very gravelly loam.	GM, SM, SM-SC	A-4	0-20	45-65	40-60	40-55	35-50	20-30	NP-10
Penitente	4-36	Very cobbly sandy clay loam, very gravelly loam.	SM	A-1, A-2,	0-45	30-50	25-45	25-45	20-35	20-30	NP-5
	36-60	Extremely gravelly loamy sand.	GP	A-1	0-45	25-40	20-35	20-30	0-5	---	NP
PeD----------	0-2	Very stony loam	SM, ML	A-4	60-70	75-85	70-80	60-75	45-60	20-30	NP-5
Petaca	2-5	Cobbly loam-----	CL-ML, ML	A-4	25-35	90-100	85-95	75-90	55-70	25-35	5-10
	5-12	Cobbly clay loam	CL	A-6	25-35	90-100	85-95	80-95	60-75	30-40	10-15
	12-17	Very gravelly sandy loam.	GM, SM	A-2, A-4	25-35	50-100	45-95	40-65	30-40	---	NP
	17	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
PfC*:											
Petaca----------	0-15	Stony loam------	SM, ML	A-4	60-70	75-85	70-80	60-75	45-60	20-30	NP-5
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Prieta----------	0-3	Stony silty clay loam.	ML	A-4, A-6	40-50	70-95	65-90	60-75	50-70	30-40	5-15
	3-14	Stony silty clay loam, very stony silty clay loam.	CL, CH	A-7	40-50	70-95	65-90	60-75	50-70	40-55	15-30
	14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
PGC*:											
Petaca----------	0-15	Stony loam------	SM, ML	A-4	60-70	75-85	70-80	60-75	45-60	20-30	NP-5
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Silva----------	0-2	Loam----------	CL-ML, ML	A-4	0	80-100	80-100	70-100	50-80	25-35	5-10
	2-33	Clay loam-------	CL	A-6, A-7	0	80-100	75-100	65-100	60-90	35-50	15-25
	33-60	Clay loam-------	CL	A-4, A-6	0	80-100	75-100	75-100	70-85	30-40	10-20
Prieta----------	0-3	Stony silty clay loam.	GM, ML	A-4, A-6	40-50	55-80	50-75	50-75	40-70	30-40	5-15
	3-14	Stony silty clay loam.	GC, CL, CH	A-7	40-50	55-80	50-75	50-75	40-70	40-55	15-30
	14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
PoB----------	0-17	Silty clay loam	CL	A-6	0	100	100	90-100	70-85	30-40	10-20
Poganeab	17-50	Silty clay loam, clay loam.	CL	A-6	0	100	100	90-100	70-85	30-40	10-20
	50-60	Gravelly sandy loam.	SM	A-2, A-4	0-5	60-80	55-75	50-70	30-45	20-30	NP-5

See footnote at end of table.

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
PrD, PrG---------- Presa	0-7	Cobbly loam-----	GM-GC, GM, SM-SC, SM	A-2, A-4	0-30	65-90	60-85	45-65	30-50	25-35	5-10
	7-54	Very gravelly loam, stony loam, stony sandy clay loam.	GM-GC, GC, GP-GC	A-1, A-2	5-65	15-50	10-45	10-40	5-25	25-35	5-15
	54-76	Extremely stony sandy loam.	GM-GC, GM, GC, SM	A-1, A-2	45-90	70-85	65-75	30-60	15-35	20-30	NP-10
PrF---------- Presa	0-5	Cobbly loam-----	GM-GC, GM, SM-SC, SM	A-2, A-4	0-30	65-90	60-85	45-65	30-50	25-35	5-10
	5-43	Very gravelly loam, extremely cobbly loam, extremely cobbly sandy clay loam.	GM-GC, GC, GP-GC	A-1, A-2	5-65	10-50	30-45	10-40	5-25	25-35	5-15
	43-52	Extremely stony sandy clay loam.	GM-GC, GC, CL-ML, CL	A-2, A-4, A-6	45-90	60-85	65-75	40-65	25-55	25-35	5-15
	52-76	Extremely stony sandy loam.	GM-GC, GM, GC, SM	A-1, A-2	45-90	70-85	65-75	30-60	15-35	20-30	NP-10
PSG*: Presa----------	0-7	Cobbly loam-----	GM-GC, GM, SM-SC, SM	A-2, A-4	0-30	65-90	60-85	45-65	30-50	25-35	5-10
	7-54	Very gravelly loam, stony loam, stony sandy clay loam.	GM-GC, GC, GP-GC	A-1, A-2	5-65	15-50	10-45	10-40	5-25	25-35	5-15
	54-76	Extremely stony sandy loam.	GM-GC, GM, GC, SM	A-1, A-2	45-90	70-85	65-75	30-60	15-35	20-30	NP-10
Rock outcrop.											
PYF*: Presa----------	0-7	Cobbly loam-----	GM-GC, GM, SM-SC, SM	A-2, A-4	0-30	65-90	60-85	45-65	30-50	25-35	5-10
	7-54	Very gravelly loam, stony loam, stony sandy clay loam.	GM-GC, GC, GP-GC	A-1, A-2	5-65	15-50	10-45	10-40	5-25	25-35	5-15
	54-76	Extremely stony	GM-GC	A-1, A-2	45-90	70-85	65-75	30-60	15-35	20-30	NP-10

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
RaC---------- Raton	0-4	Very stony silt loam.	CL, CL-ML	A-6, A-4	30-70	85-95	80-90	75-90	55-80	25-35	5-15
	4-18	Very stony clay, very stony silty clay loam.	CH, CL	A-7	50-80	85-95	80-90	75-90	65-85	45-55	20-30
	18	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
RBE*:											
Raton----------	0-4	Cobbly silt loam	CL, CL-ML	A-4, A-6	30-70	85-95	80-90	75-90	55-80	25-35	5-15
	4-18	Very stony clay, very stony silty clay loam.	CH, CL	A-7	50-80	85-95	80-90	75-90	65-85	45-55	20-30
	18	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Stunner----------	0-4	Cobbly loam-----	ML	A-4	25-50	75-100	75-95	70-90	50-75	20-30	NP-5
	4-19	Clay loam-------	CL-ML, CL	A-6, A-4	0-10	90-100	85-100	75-100	60-80	25-35	5-20
	19-60	Loam, gravelly loam.	ML, SM-SC, CL-ML	A-4	0-10	70-100	65-95	55-90	45-70	20-30	NP-10
RcG*. Rock outcrop											
RdG*: Rock outcrop.											
Badland.											
RPG*: Rock outcrop.											
Penitente----------	0-10	Cobbly loam-----	SM, ML, CL-ML, SM-SC	A-4	30-55	85-95	80-90	65-85	45-70	20-30	NP-10
			SM	A-1	55-85	75-90	70-85	45-75	20-50	20-30	NP-5

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
RYD*:											
Royosa	0-60	Loamy sand	SP-SM, SM	A-2, A-3	0	100	100	50-80	5-35	---	NP
Vibo	0-2	Sandy loam	SM, ML	A-4	0	100	100	60-85	35-55	20-30	NP-5
	2-18	Sandy clay loam	SM-SC, SC, CL-ML, CL	A-4, A-6	0	100	100	80-90	35-55	25-35	5-15
	18-60	Sandy loam	SM	A-2, A-4	0	100	100	60-70	30-40	20-30	NP-5
SaG*:											
Sabe	0-6	Very cobbly sandy loam.	SM, GM	A-2, A-4, A-1	10-50	60-80	50-70	35-70	20-45	20-30	NP-5
	6-25	Very cobbly loamy sand, extremely cobbly loamy sand.	SM, SP-SM, GM, GP-GM	A-1, A-2	20-60	50-90	40-80	25-60	10-30	20-30	NP-5
	25-60	Extremely cobbly sand.	SM, SP-SM	A-1, A-2, A-3	50-85	70-90	60-80	35-60	5-25	---	NP
Mirand	0-3	Cobbly loam	CL-ML, CL	A-4, A-6	0-35	90-100	85-100	75-100	55-80	25-40	5-20
	3-45	Clay, cobbly clay.	SC, CL, CH	A-7	0-30	80-95	75-90	65-90	35-85	40-55	20-30
	45-68	Sandy clay	GC, SC, CL, CH	A-2, A-7	0-30	70-100	65-95	55-90	30-85	40-55	20-30
SbD	0-10	Cobbly loam	GM, SM	A-2	5-30	30-60	25-50	20-45	15-35	20-30	NP-5
Sedillo	10-25	Very cobbly loam.	GM, SM, GC, SC	A-1, A-2	10-55	40-60	30-55	20-50	15-35	30-40	5-15
	25-60	Very cobbly sandy loam.	GP-GM, GM, GP	A-1	10-55	25-60	20-55	10-35	0-20	---	NP
SDD*:											
Sedillo	0-3	Very gravelly loam.	GM, SM	A-2	5-30	30-60	25-50	20-45	15-35	20-30	NP-5
	3-11	Very cobbly loam.	GM, SM, GC, SC	A-1, A-2	10-55	40-60	30-55	20-50	15-35	30-40	5-15
	11-60	Very cobbly sandy loam.	GP-GM, GM, GP	A-1	10-55	25-60	20-55	10-35	0-20	---	NP
Orthents.											
SED*:											
Sedillo	0-3	Very gravelly loam.	GM, SM	A-2	5-30	30-60	25-50	20-45	15-35	20-30	NP-5

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
SgC*:											
Prieta	0-2	Stony silty clay loam.	ML	A-4, A-6	40-50	70-95	65-90	60-75	50-70	30-40	5-15
	2-14	Stony silty clay loam, very stony silty clay loam.	CL, CH	A-7	40-50	70-95	65-90	60-75	50-70	40-55	15-30
	14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
ShB	0-16	Clay loam, silty clay loam.	ML	A-4, A-7	0	100	90-100	75-95	55-75	30-50	5-15
Shawa	16-60	Loam, clay loam	ML, CL	A-4, A-6	0	100	90-100	70-95	50-75	25-40	NP-15
SmB, SmD	0-5	Loam	CL-ML, ML	A-4	0	80-100	80-100	70-100	50-80	25-35	5-10
Silva	5-30	Clay loam	CL	A-6, A-7	0	80-100	75-100	65-100	55-90	35-50	15-25
	30-60	Clay loam	CL	A-6	0	80-100	75-100	75-100	70-85	30-40	10-20
SSC*:											
Silva	0-3	Loam	CL-ML, ML	A-4	0	80-100	80-100	70-100	50-80	25-35	5-10
	3-31	Clay loam, clay	CL	A-6, A-7	0	80-100	75-100	65-100	55-90	35-50	15-25
	31-60	Clay loam	CL	A-4, A-6	0	80-100	75-100	75-100	70-85	30-40	10-20
Sedillo	0-3	Gravelly loam	GM, SM	A-2	5-30	30-60	25-50	20-45	15-35	20-30	NP-5
	3-11	Gravelly clay loam.	GM, SM, GC, SC	A-1, A-2	10-55	40-60	30-55	20-50	15-35	30-40	5-15
	11-60	Gravelly sandy loam.	GP-GM, GM, GP	A-1	10-55	25-60	20-55	10-35	0-20	---	NP
StC	0-3	Cobbly loam	ML	A-4	10-25	75-100	75-95	70-90	50-75	20-30	NP-5
Stunner	3-23	Clay loam	CL-ML, CL	A-6, A-4	0-5	90-100	85-100	75-100	60-80	25-35	5-20
	23-60	Loam	ML, SM-SC, CL-ML	A-4	0-10	85-100	75-100	65-95	45-75	20-30	NP-10
SUC*:											
Stunner	0-4	Loam	ML, CL-ML	A-4	0-10	90-100	80-100	70-90	50-75	20-30	NP-10
	4-27	Clay loam	CL-ML, CL	A-6, A-4	0-5	90-100	85-100	75-100	60-80	25-35	5-20
	27-60	Loam	ML, SM-SC, CL-ML	A-4	0-10	85-100	75-100	65-95	45-75	20-30	NP-10
Luhon	0-5	Gravelly loam	GM, ML	A-4	5-15	60-80	55-75	50-75	40-60	25-35	NP-10
	5-60	Clay loam	ML	A-4	0-10	80-100	75-95	60-90	50-75	25-35	NP-10
SVC*:											
Stunner	0-4	Cobbly loam	ML	A-4	25-50	75-100	75-95	70-90	50-75	20-30	NP-5
	4-19	Clay loam	CL-ML, CL	A-6, A-4	0-10	90-100	85-100	75-100	60-80	25-35	5-20
	19-60	Loam, gravelly loam.	ML, SM-SC, CL-ML	A-4	0-10	70-100	65-95	55-90	45-75	20-30	NP-10
Travelers	0-13	Very stony loam, very stony clay loam.	GM, ML	A-1, A-2, A-4	25-60	25-85	25-85	25-65	20-55	20-35	NP-5
	13	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Luhon	0-6	Gravelly clay loam.	GM, ML	A-4	5-15	60-80	55-75	50-75	40-60	25-35	NP-10
	6-60	Clay loam	ML	A-4	0-10	80-100	75-95	60-90	50-75	25-35	NP-10

See footnote at end of table.

TABLE 12.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
TeB---------- Tenorio	0-3	Loam----------	SM-SC, SC, CL-ML, CL	A-4	0	100	100	65-90	40-70	20-30	5-10
	3-13	Loam----------	SM-SC, SC CL-ML, CL	A-1, A-2, A-4	0	90-100	85-100	60-90	40-70	20-30	5-10
	13-18	Extremely	GP-GM, GM	A-1	0	20-60	15-50	10-40	5-25	20-30	NP-5

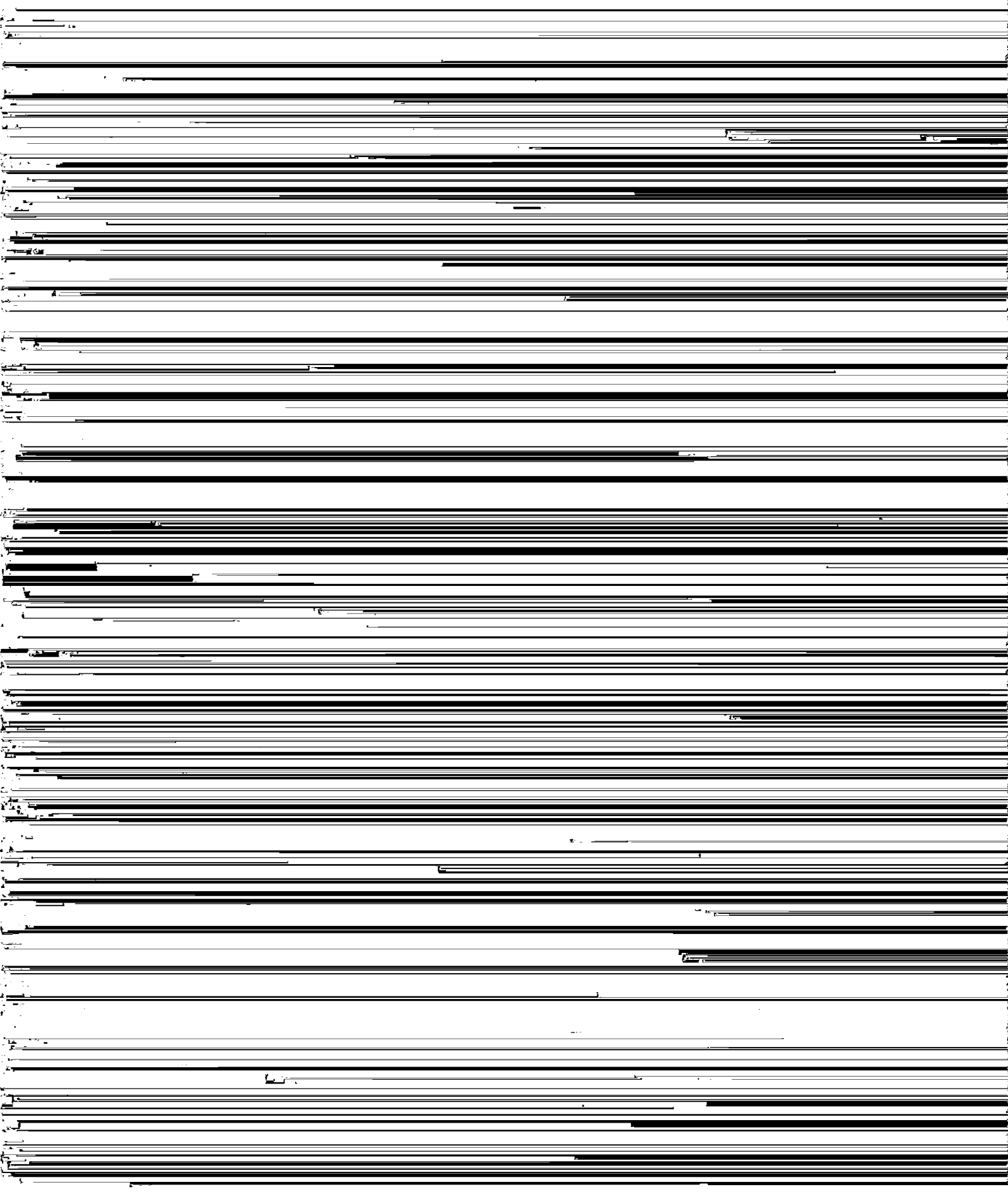

TABLE 13.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS

[The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated]

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group
							K	T	
	In	In/hr	In/in	pH	Mmhos/cm				
AMF*:									
Amalia----------	0-3	0.6-2.0	0.10-0.17	6.6-7.3	<2	Low-------	0.15	5	8
	3-17	0.6-2.0	0.10-0.13	6.6-7.8	<2	Low-------	0.15		

TABLE 13.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group
							K	T	
	In	In/hr	In/in	pH	Mmhos/cm				
DFG*:									
Rock outcrop.									
DmF----------	0-2	0.6-2.0	0.08-0.14	5.6-7.3	<2	Low-------	0.15	5	---
Diamante	2-31	2.0-6.0	0.04-0.08	5.6-7.3	<2	Low-------	0.15		
	31-60	0.2-0.6	0.05-0.08	5.6-7.3	<2	Moderate	0.15		
EGG*:									
Eutroboralfs.									
Glossoboralfs.									
Rock outcrop.									

TABLE 13.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group
							K	T	
	In	In/hr	In/in	pH	Mmhos/cm				
HSC*:									
Hernandez	0-10	0.6-2.0	0.14-0.16	7.4-7.8	<2	Low	0.28	2	5
	10-15	0.6-2.0	0.14-0.18	7.4-8.4	<2	Moderate	0.37		
	15-60	0.6-2.0	0.12-0.16	7.9-8.4	<2	Moderate	0.28		
Silva	0-2	0.6-2.0	0.16-0.18	7.4-8.4	<2	Low	0.32	5	5
	2-32	0.06-0.2	0.18-0.20	7.4-8.4	<2	High	0.32		
	32-60	0.2-0.6	0.16-0.18	7.9-8.4	<2	Low	0.32		
JaD*:									

TABLE 13.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group
							K	T	
	In	In/hr	In/in	pH	Mmhos/cm				
LtC*:									
Travelers	0-13	0.6-2.0	0.06-0.09	7.9-8.4	<2	Low	0.17	1	8
	13	---	---	---	---	---	---		
MaF	0-2	0.6-2.0	0.11-0.15	6.6-7.3	<2	Low	0.20	5	---
Maes	2-20	2.0-6.0	0.07-0.13	6.6-7.3	<2	Low	0.20		
	20-60	0.2-0.6	0.05-0.08	6.1-7.3	<2	Moderate	0.15		
MeD*:									
Maes	0-2	0.6-2.0	0.11-0.15	6.6-7.3	<2	Low	0.20	5	---
	2-20	2.0-6.0	0.07-0.13	6.6-7.3	<2	Low	0.20		
	20-60	0.2-0.6	0.05-0.08	6.1-6.5	<2	Moderate	0.15		
Etoe	0-26	0.6-2.0	0.12-0.14	6.1-7.3	<2	Low	0.15	5	---
	26-60	0.6-2.0	0.05-0.11	6.1-7.3	<2	Low	0.15		
MeF*:									
Maes	0-2	0.6-2.0	0.11-0.15	6.6-7.3	<2	Low	0.20	5	---
	2-16	2.0-6.0	0.07-0.13	6.6-7.3	<2	Low	0.20		
	16-35	0.2-0.6	0.07-0.09	6.1-6.5	<2	Moderate	0.17		
	35-67	0.2-0.6	0.05-0.08	6.1-6.5	<2	Moderate	0.15		
Etoe	0-26	0.6-2.0	0.12-0.14	6.1-7.3	<2	Low	0.15	5	---
	26-60	0.6-2.0	0.05-0.11	6.1-7.3	<2	Low	0.15		
MeG*:									
Maes	0-2	0.6-2.0	0.11-0.15	6.6-7.3	<2	Low	0.20	5	---
	2-20	2.0-6.0	0.07-0.13	6.6-7.3	<2	Low	0.20		
	20-60	0.2-0.6	0.05-0.08	6.1-6.5	<2	Moderate	0.15		
Etoe	0-26	0.6-2.0	0.12-0.14	6.1-7.3	<2	Low	0.15	5	---
	26-60	0.6-2.0	0.05-0.11	6.1-7.3	<2	Low	0.15		
MFG*:									
Maes	0-2	0.6-2.0	0.11-0.15	6.6-7.3	<2	Low	0.20	5	---
	2-20	2.0-6.0	0.07-0.13	6.6-7.3	<2	Low	0.20		
	20-60	0.2-0.6	0.05-0.08	6.1-6.5	<2	Moderate	0.15		
Etoe	0-26	0.6-2.0	0.12-0.14	6.1-7.3	<2	Low	0.15	5	---
	26-60	0.6-2.0	0.05-0.11	6.1-7.3	<2	Low	0.15		
Rock outcrop.									
MNC	0-10	0.2-0.6	0.19-0.21	7.4-7.8	<2	Moderate	0.28	5	6
Manzano	10-60	0.2-0.6	0.16-0.21	7.4-7.8	<2	Moderate	0.32		
MnA	0-11	0.2-0.6	0.19-0.21	7.4-7.8	<2	Moderate	0.28	5	6
Manzano	11-60	0.2-0.6	0.16-0.21	7.4-7.8	<2	Moderate	0.32		
MnB, MnC	0-10	0.2-0.6	0.19-0.21	7.4-7.8	<2	Moderate	0.28	5	6
Manzano	10-60	0.2-0.6	0.16-0.21	7.4-7.8	<2	Moderate	0.32		
MrD, MrF, MrG	0-3	2.0-6.0	0.07-0.09	6.6-7.3	<2	Low	0.20	4	---
Marosa	3-16	6.0-20	0.05-0.09	6.6-7.3	<2	Low	0.15		
	16-34	2.0-6.0	0.05-0.10	6.6-7.3	<2	Low	0.15		
	34-44	0.6-2.0	0.06-0.08	6.6-7.3	<2	Low	0.15		

TABLE 13.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group
							K	T	
	In	In/hr	In/in	pH	Mmhos/cm				
MSG2*:									
Marosa	0-2	2.0-6.0	0.07-0.09	6.6-7.3	<2	Low	0.20	4	---
	2-12	6.0-20	0.05-0.09	6.6-7.3	<2	Low	0.15		
	12-22	0.6-2.0	0.06-0.08	6.6-7.3	<2	Low	0.15		
	22-60	2.0-6.0	0.02-0.04	6.6-7.3	<2	Low	0.10		
Rock outcrop.									
MTE*:									
Marosa	0-3	2.0-6.0	0.07-0.09	6.6-7.3	<2	Low	0.20	4	---
	3-16	6.0-20	0.05-0.09	6.6-7.3	<2	Low	0.15		
	16-26	2.0-6.0	0.05-0.10	6.6-7.3	<2	Low	0.15		
	26-44	0.6-2.0	0.06-0.08	6.6-7.3	<2	Low	0.15		
	44-60	2.0-6.0	0.02-0.04	6.6-7.3	<2	Low	0.10		
Nambe	0-15	2.0-6.0	0.10-0.12	4.5-5.5	<2	Low	0.15	5	---
	15-49	2.0-6.0	0.07-0.09	5.1-6.0	<2	Low	0.15		
	49-60	2.0-6.0	0.06-0.08	5.1-5.5	<2	Low	0.15		
MUG*:									
Mirabal	0-32	2.0-6.0	0.07-0.09	6.1-7.3	<2	Low	0.28	2	---
	32	---	---	---	---	---	---		
Rock outcrop.									
MwD	0-3	0.6-2.0	0.12-0.16	6.6-7.3	<2	Moderate	0.28	5	---
Mirand	3-45	<0.06	0.08-0.12	6.6-7.3	<2	High	0.32		
	45-68	<0.06	0.08-0.12	6.6-7.3	<2	High	0.32		
MxD	0-6	0.6-2.0	0.13-0.18	6.6-7.8	<2	Low	0.32	5	6
Montecito	6-30	0.2-0.6	0.14-0.20	7.9-8.4	<2	High	0.28		
	30-60	0.6-2.0	0.09-0.13	7.9-8.4	<2	Low	0.20		
MxE*:									
Montecito	0-5	0.6-2.0	0.13-0.18	6.6-7.8	<2	Low	0.32	5	6
	5-35	0.2-0.6	0.14-0.20	7.9-8.4	<2	High	0.28		
	35-60	0.6-2.0	0.09-0.13	7.9-8.4	<2	Low	0.20		
Rock outcrop.									
NaD, NaF	0-5	2.0-6.0	0.11-0.13	3.6-5.5	<2	Low	0.15	5	---
Nambe	5-16	2.0-6.0	0.07-0.09	3.6-5.5	<2	Low	0.15		
	16-60	2.0-6.0	0.06-0.08	3.6-5.5	<2	Low	0.15		
NaF2	0-24	2.0-6.0	0.11-0.13	3.6-5.5	<2	Low	0.15	5	---
Nambe	24-60	2.0-6.0	0.06-0.08	3.6-5.5	<2	Low	0.15		
NaG	0-5	2.0-6.0	0.11-0.13	3.6-5.5	<2	Low	0.15	5	---
Nambe	5-16	2.0-6.0	0.07-0.09	3.6-5.5	<2	Low	0.15		
	16-60	2.0-6.0	0.06-0.08	3.6-5.5	<2	Low	0.15		
NaG2	0-24	2.0-6.0	0.11-0.13	3.6-5.5	<2	Low	0.15	5	---
Nambe	24-60	2.0-6.0	0.06-0.08	3.6-5.5	<2	Low	0.15		
NRG*:									
Nambe	0-5	2.0-6.0	0.11-0.13	3.6-5.5	<2	Low	0.15	5	---
	5-16	2.0-6.0	0.07-0.09	3.6-5.5	<2	Low	0.15		
	16-60	2.0-6.0	0.06-0.08	3.6-5.5	<2	Low	0.15		
Rock outcrop.									
NRG2*:									
Nambe	0-16	2.0-6.0	0.11-0.13	3.6-5.5	<2	Low	0.15	5	---
	16-60	2.0-6.0	0.06-0.08	3.6-5.5	<2	Low	0.15		
Rock outcrop.									

See footnote at end of table.

TABLE 13.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group
							K	T	
	In	In/hr	In/in	pH	Mmhos/cm				
OeF----------	0-2	0.2-2.0	0.08-0.12	6.6-7.8	<2	Low-------	0.17	1	---
Orejas	2-14	0.06-0.2	0.07-0.11	6.6-7.8	<2	Moderate	0.17		
	14	---	---	---	---	----------	---		
OMD*:									
Orejas----------	0-2	0.2-2.0	0.08-0.12	6.6-7.8	<2	Low-------	0.17	1	---
	2-16	0.06-0.2	0.07-0.11	6.6-7.8	<2	Moderate	0.17		
	16	---	---	---	---	----------	---		
Montecito-------	0-6	0.6-2.0	0.13-0.18	6.6-7.8	<2	Low-------	0.32	5	6
	6-30	0.2-0.6	0.14-0.20	7.9-8.4	<2	High------	0.28		
	30-60	0.6-2.0	0.09-0.13	7.9-8.4	<2	Low-------	0.20		
ORG*:									
Orthents.									
Badland.									
OSG*:									
Orthents.									
Calciorthids.									
OTG*:									
Orthents.									
Rock outcrop.									
PAG*:									
Paleboralfs.									
Cryochrepts.									
Rock outcrop.									
PbD, PbF----------	0-4	2.0-6.0	0.08-0.10	3.6-5.5	<2	Low-------	0.15	5	---
Penitente	4-36	2.0-6.0	0.06-0.09	4.5-6.0	<2	Low-------	0.15		
	36-60	6.0-20	0.02-0.04	5.1-5.5	<2	Low-------	0.15		
PeD----------	0-2	0.6-2.0	0.10-0.15	7.4-8.4	<2	Low-------	0.17	1	---

TABLE 13.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

TABLE 13.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group
							K	T	
	In	In/hr	In/in	pH	Mmhos/cm				
SSC*:									
Silva	0-3	0.6-2.0	0.16-0.18	7.4-7.8	<2	Low	0.32	5	5
	3-31	0.06-0.2	0.18-0.20	7.4-8.4	<2	High	0.32		
	31-60	0.2-0.6	0.16-0.18	7.9-8.4	<2	Low	0.32		
Sedillo	0-3	0.6-2.0	0.10-0.12	7.4-7.8	<2	Low	0.24	4	---
	3-11	0.2-0.6	0.07-0.11	7.9-8.4	<2	Low	0.17		
	11-60	2.0-6.0	0.05-0.07	7.9-8.4	<2	Low	0.17		
StC	0-3	0.6-2.0	0.14-0.16	6.6-7.3	<2	Low	0.20	5	8
Stunner	3-23	0.6-2.0	0.17-0.20	6.6-8.4	<4	Moderate	0.28		
	23-60	0.6-2.0	0.14-0.16	7.9-8.4	<2	Low	0.28		
SUC*:									
Stunner	0-4	0.6-2.0	0.16-0.18	6.6-7.3	<2	Low	0.24	5	5
	4-27	0.6-2.0	0.17-0.20	6.6-8.4	<4	Moderate	0.28		
	27-60	0.6-2.0	0.14-0.16	7.9-8.4	<2	Low	0.28		
Luhon	0-5	0.6-2.0	0.13-0.15	7.9-8.4	2-4	Low	0.32	5	6
	5-60	0.6-2.0	0.11-0.13	8.5-9.0	4-8	Low	0.28		
SVC*:									
Stunner	0-4	0.6-2.0	0.14-0.16	6.6-7.3	<2	Low	0.20	5	8
	4-19	0.6-2.0	0.17-0.20	6.6-8.4	<4	Moderate	0.28		
	19-60	0.6-2.0	0.14-0.16	7.9-8.4	<2	Low	0.28		
Travelers	0-13	0.6-2.0	0.06-0.09	7.9-8.4	<2	Low	0.17	1	8
	13	---	---	---	---	---	---		
Luhon	0-6	0.6-2.0	0.13-0.15	7.9-8.4	2-4	Low	0.32	5	6
	6-60	0.6-2.0	0.11-0.13	8.5-9.0	4-8	Low	0.28		
TeB	0-3	0.6-2.0	0.14-0.18	6.6-7.3	<2	Low	0.32	2	5
Tenorio	3-13	0.6-2.0	0.13-0.18	6.6-7.3	<2	Low	0.28		
	13-18	2.0-6.0	0.05-0.07	6.6-7.8	<2	Low	0.17		
	18-60	>20	0.03-0.05	7.4-7.8	<2	Low	0.10		
TeC	0-5	0.6-2.0	0.14-0.18	6.6-7.3	<2	Low	0.32	2	5
Tenorio	5-17	0.6-2.0	0.13-0.18	6.6-7.3	<2	Low	0.28		
	17-60	>20	0.03-0.05	7.4-7.8	<2	Low	0.10		
TrF	0-7	0.6-2.0	0.07-0.09	6.1-7.3	<2	Low	0.32	5	---
Trampas	7-11	0.6-2.0	0.06-0.08	6.1-6.5	<2	Low	0.17		
	11-35	0.06-0.2	0.06-0.08	6.1-6.5	<2	Moderate	0.15		
	35-61	0.6-2.0	0.06-0.08	5.6-6.0	<2	Low	0.17		
TsE	0-7	0.6-2.0	0.07-0.09	6.1-7.3	<2	Low	0.32	5	---
Trampas	7-23	0.06-0.2	0.06-0.08	6.1-6.5	<2	Moderate	0.15		
	23-61	0.6-2.0	0.06-0.08	5.6-6.0	<2	Low	0.17		
TTF*:									
Trampas	0-7	0.6-2.0	0.07-0.09	6.1-7.3	<2	Low	0.32	5	---
	7-11	0.6-2.0	0.06-0.08	6.1-6.5	<2	Low	0.17		
	11-49	0.06-0.2	0.06-0.08	6.1-6.5	<2	Moderate	0.15		
	49-61	0.6-2.0	0.06-0.08	5.6-6.0	<2	Low	0.17		
Diamante	0-2	0.6-2.0	0.08-0.14	5.6-7.3	<2	Low	0.15	5	---
	2-31	2.0-6.0	0.04-0.08	5.6-7.3	<2	Low	0.15		
	31-60	0.2-0.6	0.05-0.08	5.6-7.3	<2	Moderate	0.15		
TVC	0-15	0.6-2.0	0.06-0.09	7.9-8.4	<2	Low	0.17	1	8
Travelers	15	---	---	---	---	---	---		

See footnote at end of table.

TABLE 13.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group
							K	T	
	In	In/hr	In/in	pH	Mmhos/cm				
UTG*: Ustorthents.									
Trampas	0-7	0.6-2.0	0.07-0.09	6.1-7.3	<2	Low	0.32	5	---
	7-11	0.6-2.0	0.06-0.08	6.1-6.5	<2	Low	0.17		
	11-49	0.06-0.2	0.06-0.08	6.1-6.5	<2	Moderate	0.15		
	49-61	0.6-2.0	0.06-0.08	5.6-6.0	<2	Low	0.17		
VbD	0-5	2.0-6.0	0.11-0.15	6.6-8.4	<2	Low	0.24	5	3
Vibo	5-18	0.6-2.0	0.14-0.16	6.6-8.4	<2	Moderate	0.32		
	18-45	0.6-2.0	0.11-0.13	6.6-8.4	<2	Low	0.24		
	45-60	6.0-20	0.06-0.08	6.6-8.4	<2	Low	0.17		

TABLE 14.--SOIL AND WATER FEATURES

["Flooding" and "water table" and terms such as "rare," "occasional," and "very brief" are explained in the text. The symbol > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Soil name and map symbol	Hydrologic group	Flooding			High water table		Bedrock		Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Months	Depth	Hardness		Uncoated steel	Concrete
					Ft		In				
AMF*:											
Amalia	B	None	---	---	>6.0	---	>60	---	Low	High	Low.
Manzano	C	Rare to common.	Very brief	May-Oct	>6.0	---	>60	---	---	High	Low.
ATC*:											
Antonito	B	None	---	---	>6.0	---	20-40	Hard	Low	High	Low.
Travelers	D	None	---	---	>6.0	---	10-20	Hard	Low	High	Low.
CaB	C	Occasional	Very brief	Apr-Sep	2.0-6.0	Mar-Jun	>60	---	Moderate	High	Moderate.
Caruso											
CHG*:											
Chimayo	D	None	---	---	>6.0	---	12-20	Hard	Low	Low	Low.
Rock outcrop.											
CRG*:											
Cryoboralfs.											
Rock outcrop.											
CSC*.											
Cryoborolls											
CTC*:											
Cryoborolls.											
Cryaquolls.											
CUB*.											
Cumulic Haplaquolls											
CYB*.											
Cumulic Haploborolls											
DeF	C	None	---	---	>6.0	---	>60	---	Moderate	High	Low.
Derecho											

See footnote at end of table.

osion
crete
erate.

rdness	Potential frost action	Risk of corrosion	
		Uncoated steel	Concrete
---	Moderate---	High-----	Moderate.
---	Moderate---	Moderate	Moderate.
---	Moderate---	High-----	Moderate.
---	Moderate---	Moderate	Moderate.
---	Moderate---	High-----	Low.
---	Moderate---	High-----	Moderate.
---	Moderate---	Moderate	Moderate.
---	Moderate---	High-----	Low.
---	High-------	High-----	Low.
---	Low--------	High-----	Moderate.
	Low--------	High-----	Low.
---	Moderate---	High-----	Low.
---	Moderate---	High-----	Low.
---	Moderate---	Low------	Low.
---	Moderate---	High-----	Low.
---	Moderate---	Low------	Low.
---	---	High-----	Low.

TABLE 14.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table		Bedrock		Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Months	Depth	Hardness		Uncoated steel	Concrete
					Ft		In				
MrD, MrF, MrG----- Marosa	B	None--------	---	---	>6.0	---	>60	---	Moderate---	Moderate	Low.
MSG*, MSG2*: Marosa----------	B	None--------	---	---	>6.0	---	>60	---	Moderate---	Moderate	Low.
Rock outcrop.											
MTE*: Marosa----------	B	None--------	---	---	>6.0	---	>60	---	Moderate---	Moderate	Low.
Nambe----------	B	None--------	---	---	>6.0	---	>60	---	Moderate---	High-----	High.
MUG*: Mirabal----------	C	None--------	---	---	>6.0	---	20-35	Hard	Moderate---	Low------	Moderate.
Rock outcrop.											
MwD---------- Mirand	D	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
MxD---------- Montecito	C	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
MxE*: Montecito--------	C	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
Rock outcrop.											
NaD, NaF, NaF2, NaG, NaG2-------- Nambe	B	None--------	---	---	>6.0	---	>60	---	Moderate---	High-----	High.
NRG*, NRG2*: Nambe----------	B	None--------	---	---	>6.0	---	>60	---	Moderate---	High-----	High.
Rock outcrop.											
OeF---------- Orejas	D	None--------	---	---	>6.0	---	10-20	Hard	Low--------	High-----	Low.
OMD*: Orejas----------	D	None--------	---	---	>6.0	---	10-20	Hard	Low--------	High-----	Low.
Montecito--------	C	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.

See footnote at end of table.

ess	Potential frost action	Risk of corrosion	
		Uncoated steel	Concrete
-	Moderate---	High-----	High.
	Moderate---	High-----	Low.
	Moderate---	High-----	Low.
	Low--------	High-----	Low.
	Moderate---	High-----	Low.
-	Low--------	High-----	Low.
	Low--------	High-----	Low.
-	High-------	High-----	High.
-	Moderate---	Moderate	High.

TABLE 14.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table		Bedrock		Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Months	Depth	Hardness		Uncoated steel	Concrete
					Ft		In				
PSG*:											
Presa	B	None	---	---	>6.0	---	>60	---	Moderate	Moderate	High.
Rock outcrop.											
PYF*:											
Presa	B	None	---	---	>6.0	---	>60	---	Moderate	Moderate	High.
Cryaquolls.											
RaC	D	None	---	---	>6.0	---	10-20	Hard	Moderate	High	Low.
Raton											
RBE*:											
Raton	D	None	---	---	>6.0	---	10-20	Hard	Moderate	High	Low.
Stunner	B	None	---	---	>6.0	---	>60	---	Low	High	Low.
RcG*.											
Rock outcrop											
RdG*:											
Rock outcrop.											
Badland.											
RPG*:											
Rock outcrop.											
Penitente	B	None	---	---	>6.0	---	>60	---	Moderate	High	High.
RRE*:											
Rock outcrop.											
Raton	D	None	---	---	>6.0	---	10-20	Hard	Moderate	High	Low.
RUG*:											
Rock outcrop.											
Ustorthents.											
RvC	A	None	---	---	>6.0	---	>60	---	Low	Low	Low.
Royosa											
RWE*:											
Royosa	A	None	---	---	>6.0	---	>60	---	Low	Low	Low.
Orthents.											

See footnote at end of table.

TABLE 14.--SOIL AND WATER FEATURES--Continued

ame and ymbol	Hydro-logic group	Flooding			High water table		Bedrock		Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Months	Depth	Hardness		Uncoated steel	Concrete
					Ft		In				
----------	A	None--------	---	---	>6.0	---	>60	---	Low--------	Low------	Low.
----------	B	None--------	---	---	>6.0	---	>60	---	Moderate---	High-----	Low.
----------	B	None--------	---	---	>6.0	---	>60	---	Moderate---	Low------	Low.
----------	D	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
----------	B	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
----------	B	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
s.											
----------	B	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
----------	C	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
eta-------	C	None--------	---	---	>6.0	---	20-40	Hard	Low--------	High-----	Low.
----------	D	None--------	---	---	>6.0	---	10-20	Hard	Low--------	High-----	Low.
----------	B	None--------	---	---	>6.0	---	>60	---	Moderate---	High-----	Low.
)----------	C	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
----------	C	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
)----------	B	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
----------	B	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
r											
r----------	B	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Low.
----------	B	None--------	---	---	>6.0	---	>60	---	Low--------	High-----	Moderate.

footnote at end of table.

tial st on	Risk of corrosion	
	Uncoated steel	Concrete
-----	High-----	Low.
-----	High-----	Low.
-----	High-----	Moderate.
-----	Moderate	Low.
te---	High-----	Low.
;e---	High-----	Low.
;e---	High-----	Moderate.
-----	High-----	Low.
.e---	High-----	Low.
.e---	High-----	Low.
e---	High-----	Low.
e---	Moderate	Moderate.

TA

yses[1]				Liquid limit	Plasticity index	Classification	
sieve--							
5. 4	No. 10	No. 40	No. 200			AASHTO[2]	Unified
				Pct			
	100	68	47	NP[3]	NP	A-4(3)	SM-2
74	52	42	31	24	5	A-2-4(0)	SM-SC
41	31	20	10	NP	NP	A-1-a(0)	GP-GM
60	37	22	13	25	7	A-2-4(0)	
68	53	37	21	NP	NP	A-1-b(0)	SM-1
45	37	27	17	NP	NP	A-1-b(0)	GM
71	67	57	35	41	9	A-2-5(0)	SM-1
27	20	10	4	NP	NP	A-1-a(0)	GP
	100	93	73	37	10	A-4(8)	ML
	100	90	65	38	10	A-4(6)	ML

s procedure frequently differ somewhat
the Soil Conservation Service (SCS). In
od and the various grain-size fractions
millimeters in diameter. In the SCS soil
the material coarser than 2 millimeters in
nical analyses used in this table are not

TABLE 16.--CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Amalia	Loamy-skeletal, mixed Borollic Haplargids
Angostura	Loamy-skeletal, mixed Typic Cryoboralfs
Antonito	Fine-loamy, mixed Borollic Haplargids
Caruso	Fine-loamy, mixed, mesic Fluvaquentic Haplustolls
Chimayo	Loamy-skeletal, mixed, nonacid, mesic Lithic Ustorthents
Derecho	Clayey-skeletal, mixed Mollic Eutroboralfs
Devisadero	Clayey-skeletal, mixed [illegible]