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Agriculture



NRCS

Natural
Resources
Conservation
Service

In cooperation with
United States Department
of the Interior, Bureau of
Land Management; State
of California, Department
of Conservation; Regents
of the University of
California, Agriculture
and Natural Resources
(Agricultural Experiment
Station); and United States
Department of Energy

Soil Survey of Kern County, California, Southwest Part



How To Use This Soil Survey

General Soil Maps

The general soil maps, which are color maps, show the survey area divided into groups of associated soils called general soil map units. These maps are useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the maps, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

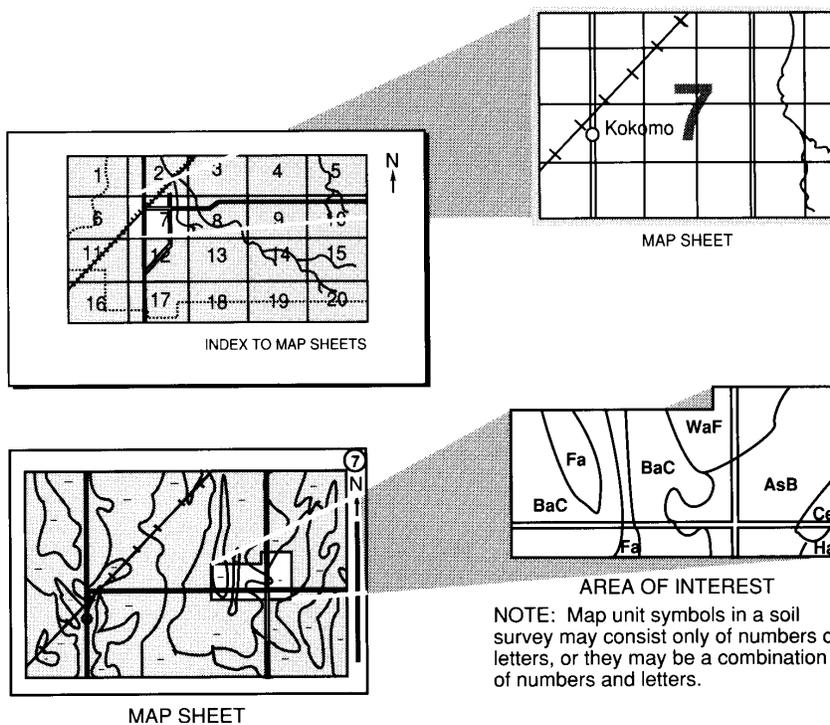
Detailed Soil Maps

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

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

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

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



National Cooperative Soil Survey

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

Major fieldwork for this soil survey was completed in 2008. Soil names and descriptions were approved in 2008. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2001. The most current official data are available on the Internet.

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

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Cover Caption

Overview of Taft from an area of oil fields. Photo by Robin M. Roberts, NRCS Earth Team Volunteer.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at <http://www.nrcs.usda.gov>.

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Foreword

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

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

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

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://soils.usda.gov/sqi/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

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

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

Lincoln E. Burton
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Soil Survey of Kern County, California, Southwest Part

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

This survey area consists of the southwest part of Kern County (fig. 1). It encompasses an area of approximately 672,400 acres (272,120 hectares). It is bordered on the north by the survey area of Kern County, northwestern part; on the east by the survey area of Kern County, southeastern part; on the west by the survey area of San Luis Obispo County, Carrizo Plain; on the southwest by the northern Santa Barbara survey area; on the south by the Los Padres National Forest; and on the southeast by the Antelope Valley survey area.

The lowest elevation in southwest Kern County is approximately 276 feet (84.1 meters), in the historic Kern Lake Bed. The highest elevation is approximately 5,958 feet (1,816 meters), on Eagle Rest Peak.

General Nature of the Survey Area

This section provides general information about the survey area. It describes history and development; physiography, relief, and drainage; geology; and climate.

History and Development

By Robin M. Roberts, NRCS Earth Team Volunteer.

The history of human activity as it impacts the soil of the survey area revolves around the presence or absence of two liquids—oil and water. While oil and water do

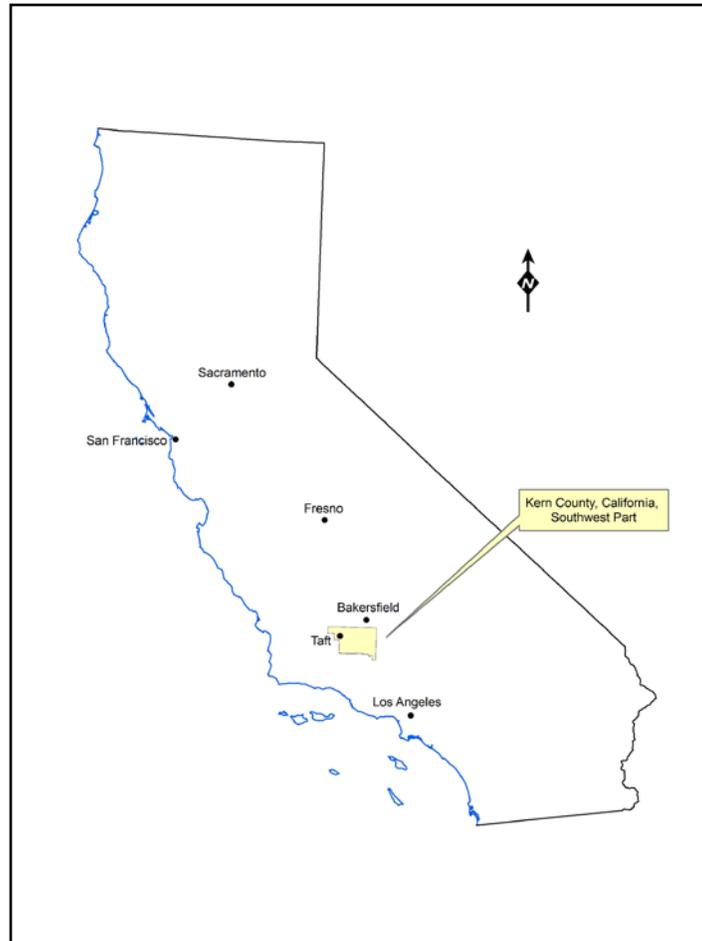


Figure 1.—Location of the survey area in California.

not chemically mix, the symbiotic relationship between the two in the survey area is important as a basis for understanding the history of land use in the southwest part of Kern County. Where one of these abounds, the other is not found. Where either occurs, humans are evident. Human interaction with oil or water defines human interaction with the soil.

The Early Native Americans

The earliest residents of the survey area were native Californians from two different language groups that each took up residence in a different topological portion of the survey area. Arriving about 9,000 years ago (Aikens, 1978, p. 138; Riddell and Olsen, 1969, pp. 121-130), the Yowelmani tribe of the Yokut American Indians (Penutian language stock) resided in the valleys of the survey area (Cook, 1955; Kroeber, 1976; Latta, 1949; Wedel, 1941). The major villages of this tribe were identified as *Tulamniu* on the east shore of Buena Vista Lake and *Wegitiu* north of the lake, near present-day McKittrick (Kroeber, 1976; Wedel, 1941). The linguistically different coastal Chumash occupied the San Emigdio hills and Tejon Pass (Heizer, 1940; Johnson, 1978; Kroeber, 1976; Wedel, 1941), including Castac (not Castaic) Lake, which derives its name from the Chumash word *Kashtiq*, meaning "what is like a face, or an eye" (Beeler and Klar, 1977, p.302; Johnson, 1978)—a word generally denoting any small body of water (Harrington, 1917 and 1935).

Like later residents, these earliest humans were involved in activities centered on oil and water. Though the native Californians—or *Tulareños*, as the Spanish called them—roamed the entire area for food, villages and population centers were always located directly adjacent to water, which provided the bulk of the food and materials the inhabitants subsisted on (Heizer and Whipple, 1971). Both the Yokuts and the Chumash are also known to have used asphaltum from the tar pits near McKittrick for numerous purposes, including waterproofing baskets, constructing brushes, and creating various figures and numerous other articles made of mixed clay and asphaltum (Heizer and Whipple, 1971; Wedel, 1941).

These tribes left few lasting marks on the land or soil, except for now-buried refuse piles, often called “kitchen middens.” Their practice of setting deliberate fires to stimulate certain seed plants and promote the growth of certain plants used for basketry set the stage for the later dominance of nonnative plant species (Anderson and Moratto, 1996).

The Early European Period

In 1772, Don Pedro Fagés, commandante of the Presidio at Monterey, descended into the Central Valley via Tejon Pass, which he described as “the pass of Buena Vista,” or good view (Bolton, 1931; Fagés, 1775; Priestly, 1937; Scott, 2006). He was the first nonnative individual to enter the survey area, except for the deserters he was chasing (Cutter, 1950). He named the pass “grapevine” (*la Cañada de las Uras*) for the wild grapes growing profusely there (Priestly, 1937; Scott, 2006; Rehart, 1997, p. 159; Robinson, 1963, pp. 3-4). In his diary, Fagés described a “labyrinth of lakes and tulares” surrounded by a great plain populated with many large villages. He particularly noted a large village on the southwest edge of the lake, situated at the base of some hills. He named the lake “Buena Vista” (Priestly, 1937; Robinson, 1963; Wedel, 1941). The supposed site of this village was excavated in 1933-34 by a Federally funded team, including Waldo R. Wedel, in an inconclusive effort to positively identify it as the Yokuts village of Tulamni (Wedel, 1941). Today, the site is marked by a state historical landmark commemorating Fagés’ visit. While Fagés was impressed by the view, he felt less sanguine about the land itself, implying that it was unfit for civilized use (Fagés, 1775; Heizer and Whipple, 1971, p. 79; Priestly, 1937). The saline-sodic soil Fages clay, 0 to 1 percent slopes (map unit 160), along the western and southern edges of the Buena Vista Lake Bed, is named for him, and it is fitting that the Fages soil is one of the saltiest soils in the survey, unfit for most uses.

Father Francisco Garcés briefly entered the survey area in 1776 through Tejon Pass, skirting the far eastern part of the survey area until he came to a great river—the present-day Kern, which he named Rio de San Felipe (Rehart, 1997; Robinson, 1963). From there, he continued northward into Tulare County. The saline-sodic soil Garces loam, 0 to 1 percent slopes (map unit 180), along the San Emigdio hills watershed, is named for him. In 1806, Padre Jose Maria de Zalvidea passed through the survey area, giving the name “La Porciuncula” to the Kern River before exiting through Tehachapi Pass (Gifford and Schenck, 1926; Wedel, 1941). The slightly saline-sodic soils Zalvidea sandy loam, partially drained, 0 to 2 percent slopes (map unit 380), and Zalvidea sandy clay loam, partially drained, 0 to 1 percent slopes (map unit 381), northeast of the Buena Vista Lake Bed, are named for him. In July of 1806, Lt. Francisco Ruiz, accompanying the Moraga expedition, named Tejon Pass (Muñoz and others, 1946; Parsons, 1987). “Tejon” is Spanish for “badger.” Sometime around this year, the resident Yokuts, seemingly distressed over the frequency and increasingly acrimonious contact with Europeans, abandoned their west-side villages and retreated into the Sierra Nevada foothills (Latta, 1949).

When the Spanish ceded California to Mexico on April 11, 1822, the survey area fell under the flag of the Republic of Mexico, but few changes occurred until 1833, when secularization of the California missions opened new land for settlement

(Bancroft, 1886; Cleland, 1951). Mexico responded by encouraging settlement through liberalization of their land grant policy. A comparative explosion of land grants followed, from approximately 30 grants at the end of the Spanish period to over 500 when California became a State (Burcham, 1961; Robinson, 1948). Among these was the Castec land grant, running from Castac Lake to Kern Lake (November 22, 1843); San Emigdio (July 14, 1842); and the El Tejon Rancho (November 24, 1843).

Assessing the impact of the early Spanish and Mexican regimes is difficult. The impact stems largely from grazing by feral cattle and horses and the inadvertent importation of nonnative plants. Grazing accelerated the spread of exotic plant species and contributed to mechanical erosion caused by soil compaction. In addition, competition with native animals likely produced biotic alterations that are difficult to determine (Preston, 1981, p. 60).

The Early American Period

As early as 1827, numerous American exploration parties passed near but not through the survey area. On October 17, 1837—a date immortalized in an inscription on an oak tree—trapper Peter Lebeck was killed by a grizzly bear at what later became the site of Fort Tejon. The town of Lebec is named for him. In 1845, John C. Fremont, on his third expedition, named the Kern River for Edward M. Kern, his topographer (Cleland, 1951; Comfort, 1934; Farquhar, 1926). In 1848, the survey area became U.S. territory with the signing of the Treaty of Guadalupe Hidalgo on February 2. A significant American presence in the area did not occur, however, until after the discovery of gold in 1849. Beginning in 1850, a steady influx of Americans arrived in the survey area (Burcham, 1961; Cleland, 1951). That year, the Hudgins emigrant party from Los Angeles reached the survey area via Tejon Canyon and began raising hogs around Buena Vista Lake (Kern County Superintendent of Schools, 1995). In May 1850, Lt. George Horatio Derby surveyed the San Joaquin Valley for a railroad route and passed along the northern edge of the survey area. Like Fagés, Derby was less than complimentary about the soil he trod, calling it “sterile and unproductive when not an absolute swamp” (Derby, 1850).

On September 9, 1850, California became the 31st State of the Union. A few months later, a new county—Mariposa—was established. It included present-day Kern County (Bancroft, 1886; Comfort, 1934; Lewis Publishing, 1892). Tulare County, including portions of the survey area, was separated out of Mariposa County in 1852 (Comfort, 1934; Lewis Publishing, 1892).

Activity in the new county soon escalated. During the same year that the county was formed, cattleman John McCray drove the first purebred cattle into the Kern River basin in response to the rising demand for meat (Kern County Superintendent of Schools, 1995). Raising cattle subsequently became a speculative business rather than merely a way to make a living (Burcham, 1961; Cleland, 1941). In August and September 1853, Lieutenants Robert S. Williamson and Parke performed a railroad survey of the area and discovered marine vertebrate fossils along the Kern River (Kern County Superintendent of Schools, 1995). This discovery was instrumental in guiding later oil exploration. Later that same year, sheep herding began on the Tejon Ranch (Burcham, 1956). Both cattle and sheep ranching have had a profound impact on the soil and plantlife of the survey area, impacting the soil to a much greater extent than the native Californians had (Burcham, 1956 and 1961).

Gen. Edward Fitzgerald Beale, Superintendent of Indian Affairs for California, arrived in Tejon on September 2, 1853 (Hittell, 1898; Wedel, 1941). Responding to rising tensions between native Californians and American settlers, Beale created the Tejon Indian Rancho, originally comprising 75,000 acres of land, and moved all remaining Tulareños in the Kern River area onto it. It was later renamed Sebastian Indian Reservation after the Chairman of Indian Affairs, William King Sebastian (Burcham, 1956). On August 10, 1854, Fort Tejon was established as the headquarters

of the U.S. Army First Dragoons to protect the Indian reservation and suppress the rising tide of stock rustling. It later became the post for the famed U.S. Camel Corps. The fort lasted only until June 15, 1861, when the last of the troops stationed there were removed (Hittell, 1898; Lewis Publishing, 1892).

During 1854 and 1855, large areas of the valleys and deserts of the future Kern County were surveyed in preparation for increasing settlement. The first attempts to organize a separate Kern County—originally proposed as “Buena Vista County”—took place at that time. The first telegraph line connecting Fort Tejon with Los Angeles was completed in 1858. In 1860, it was extended to help complete the line from Los Angeles to San Francisco. More significantly, asphaltum deposits were first noted by a land survey party at the future site of the Sunset oilfield that year (Kern County Superintendent of Schools, 1995).

The year 1863 saw a spate of activity, including numerous hostilities between settlers and Indians that led to the removal of the natives and the closing of the Sebastian Indian Reservation. Colonel Thomas Baker, after whom the Kern County seat of Bakersfield was named, began reclaiming Kern River swamplands during that year. In 1864, Thomas H. Barnes planted the first alfalfa crop in the Kern River Valley (outside the survey area), and the Buena Vista Oil Refinery began operating in the Temblor area. Production at the refinery began on August 14, and 4,000 gallons of illuminating oil were produced during the first 3 years of operation. E.F. Beale took over the abandoned Fort Tejon in 1864, making it part of the historic Tejon Ranch (Kern County Superintendent of Schools, 1995).

Kern County was organized on April 2, 1866, from parts of Tulare and Los Angeles Counties. The first county seat was Havilah, in the northeastern section of the county. This town was founded in 1864 and had a population of around 3,000 (Comfort, 1934; Lewis Publishing, 1892). The mines around Havilah played out, and when the Southern Pacific railroad laid track through Sumner (East Bakersfield) in 1874, the county seat was transferred to Bakersfield and the focus of development moved from the Kern River Valley to the San Joaquin Valley (Comfort, 1934; Kern River Valley Historical Society, 2007; Lewis Publishing, 1892). Interest in what lay under the ground, however, did not go away—it was simply transferred from mineral gold to a different form of gold: oil.

The Oil Boom

Following the initial success of the Buena Vista Oil Refinery in 1864, the Buena Vista Petroleum District was organized on February 1, 1865 (Kern County Superintendent of Schools, 1995). John Hambleton started commercial oil development in the county during 1872, extracting petroleum from hand-dug pits. The first drilled oil wells, near McKittrick, were not drilled until 1877—the same year that the first oil derrick in the county, located in the future Sunset field, was erected by Jewett and Blodget. The Sunset Oil Company was incorporated in March of 1877, but it was not until 1889-90 that the Sunset oilfield was actually discovered by Jewett and Blodget (San Joaquin Geological Society, 2002). By 1892, the field had produced 1,200 tons of asphaltum. The Discovery Well of the nearby Kern River oilfield was completed in May 1899. The next year, the Producers Oil Association was formed. Within the survey area, the Midway oilfield was discovered on May 1, 1901 (Kern County Superintendent of Schools, 1995; Orcutt, 1924; Rintoul, 1990).

The Sunset Railroad Company was incorporated on March 16, 1900, to provide rail transport of petroleum products on the west side. The survey of the line was completed the next month. In 1901, the line was completed to Sunset (renamed Hazelton in 1907)—a total of 30.27 miles. The first rail was laid in April. An additional 2.5 miles was built to Maricopa in March 1904, and a 17.11-mile extension, named the Sunset Western Railroad, running from Pentland Junction to Shale, was opened to Moron on January 1, 1909. The first oil pipeline in the county, built by the Standard

Oil Company, ran from the Kern River field outside the survey area to Point Richmond and was completed in 1902. During that year, the Independent Oil Producers Agency (IOPA) was incorporated to obtain fair prices for members' crude oil (Kern County Superintendent of Schools, 1995; Orcutt, 1924; Rintoul, 1990).

With the infrastructure for a booming oil industry laid, development in the survey area proceeded rapidly. The Buena Vista Hills oilfield was discovered in 1909. On November 27 of that year, Midway well No. 2-6 blew over its derrick and made the Midway oilfield famous (Kern County Superintendent of Schools, 1995; San Joaquin Geological Society, 2002). Not to be outdone, on March 15, 1910, the Lakeview Gusher in the Buena Vista field (figs. 2 and 3) began spewing oil and did not stop until September 9, 1911, becoming the largest ever in the Nation (Kern County Superintendent of Schools, 1995; Rintoul, 1990; San Joaquin Geological Society, 2002). So much oil spewed at so great a rate that a stream of oil, dubbed "the trout stream," flowed down the slope, heading toward Buena Vista Lake. An extensive system of pumps and dikes routed the oil into a large pool and prevented it from reaching the lake (Rintoul, 1978 and 1990).

The first natural gas pipeline was completed in 1910, starting the commercial gas industry in the county (Kern County Superintendent of Schools, 1995; Orcutt, 1924). In 1912, the Elk Hills Naval Reserve oilfield was established. It included nearly 70,000 acres. It was later the object of the infamous Teapot Dome scandal that troubled the Harding administration in 1922 (Time, 1927). Also in 1912, a gas pipeline was built from the Midway oilfield to Los Angeles. In a tribute to the growing notoriety of the Kern oilfields, a Fatty Arbuckle movie titled "Opportunity" was filmed in the Kern oilfields and later premiered in Taff's C & C Theatre on March 31, 1913 (Rintoul, 1978, pp.25-40).

After a brief hiatus, the Wheeler Ridge oilfield was discovered in November 1922. In March 1930, the oil well depth record for that time was set with Standard Oil's Mascot No. 1 well, which was rotary drilled to 9,629 feet in the Midway-Sunset field (California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, 1998; San Joaquin Geological Society, 2002). In June of 1934, the Buena Vista Lake gas



Figure 2.—Lakeview Gusher historical marker. Photo by Robin M. Roberts, NRCS Earth Team Volunteer.



Figure 3.—Remnant of attempts to control the Lakeview Gusher. Photo by Robin M. Roberts, NRCS Earth Team Volunteer.

field was discovered, followed by the discovery of the Paloma oilfield in the Buena Vista Lake bottom on August 31, 1939 (Kern County Superintendent of Schools, 1995). World War II ended the discovery period for west-side oil as the focus turned to production and refining to meet the huge petroleum demands of a world-wide conflict.

Spurred by the new process of steam injection, another peak production period took place during the 1960s (Christie, 1999; Rintoul, 1999). Oil exploration in the survey area recommenced, and the Asphalto oilfield, 30 miles southwest of Bakersfield, was discovered on December 14, 1962—the first new field in the survey area in over 20 years. A decade later, in 1974, the discovery well for the Yowlumne oilfield was drilled 25 miles southwest of Bakersfield. By 1993, it had become the 16th Kern County oilfield to go over 100 million barrels in production (Kern County Superintendent of Schools, 1995). Figure 4 shows an oilfield on the Little Signal Hills between the towns of Taft and Maricopa.

The Elk Hills field ranks as the State's top producing oil-gas field, having produced 2 trillion cubic feet of gas, with an estimated 700 billion still in reserve (California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, 2006). An Elk Hills oil well, Hay No. 7, was the world's most productive gas well, despite having caught fire on July 26, 1919. The deepest oil well in the world was completed in the Paloma oilfield by the Ohio Oil Company 17 miles southwest of Bakersfield, reaching 20,521 feet deep on August 20, 1953. The deepest producing well in the world was drilled by Richfield Oil Company in the North Coles Levee field near Tupman, just outside the northern boundary of the survey area—17,895 feet deep—in December of that same year (Kern County Superintendent of Schools, 1995).

In 1985, Kern County reached an all-time production high of 256 million barrels of oil per year, accounting for more than half of the all-time California oil production high of 424 million barrels of oil per year (California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, 1998 and 2006).

The Midway-Sunset oilfield, having a cumulative production of close to 3 billion barrels of oil at the end of 2006, is the largest oilfield in California and the third largest



Figure 4.—An oilfield on the Little Signal Hills between the towns of Taft and Maricopa. Photo by Robin M. Roberts, NRCS Earth Team Volunteer.

producer in the United States. It is estimated that approximately 580 million barrels of oil still remain to be extracted from this field (California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, 2006).

Today, Kern County ranks as the number one oil- and gas-producing county in the United States—a fact all the more significant considering that Kern County is also the fourth most productive agricultural county in the Nation (California Department of Food and Agriculture, 2007). Much of that agricultural production takes place on land reclaimed from the historic Buena Vista Lake Bed in the survey area, but a significant portion comes from land under which oil is extracted. Such dual-purpose production is unequalled anywhere in the world.

The Development of Agriculture

The first agricultural development on record near the survey area was in 1860, when cattle and sheep were brought into the nearby Kern River Valley. Because of low annual precipitation, crop production depended largely on the availability of irrigation water. Development of water sources for irrigation began with the growth of the mining industry. As miners moved into the area, irrigation ditches were established and vegetable crops were grown (Comfort, 1934; BLM, 2004). Prior to that time, reclamation efforts on the valley floor had taken place, but no real commercial agricultural production occurred.

In 1863, Colonel Baker began the process of reclaiming swampy and overflowed land for residential and agricultural purposes. He had purchased reclamation rights to the State-owned land in the Kern River area, as well as some private holdings that had previously existed. As part of his reclamation efforts, Baker built a dam across the north end of Buena Vista Lake, erected levees along the Kern River channel, and installed a head gate across the old south fork of the Kern River (Robinson, 1963). These installations marked the beginning of a century-long effort to tame and reclaim

the valley wetlands—including Buena Vista and Kern Lakes—for agricultural purposes. Today, the dry lakebeds are home to some of the largest farms in the world, including the J.G. Boswell Incorporation, which purchased the bulk of the lake bottom from the heirs of Henry Miller in 1973 (Arax and Wartzman, 2003, pp. 314-315). Miller—of Miller and Lux—purchased the lake from a developer named Montgomery who had persuaded the California Legislature to grant him the entire Buena Vista-Kern Lake region for reclamation. Unable to carry out the reclamation, Montgomery found a willing buyer for his interests in the ever-acquisitive Henry Miller (Treadwell, 1950, p.79). Though his initial purpose was to gain control of the rivers that were always directly adjacent to wetlands, Miller later conducted large-scale reclamation of the wetlands within the survey area. The Millox series (map units 240-243), along the north portion of the Buena Vista Lake Bed, is named as a variation of Millux, after the Miller and Lux Company.

In 1865, land developers Livermoore, Chester, and Jewitt demonstrated that cotton could be grown on a large scale in the areas contingent to the Kern River (Zonlight, 1953). That experiment led to the organization of the California Cotton Growers Association by financiers based in San Francisco in August 1870 (California Cotton Growers and Manufacturers Association, 1871) to further develop large-scale cotton growing around the Kern River (Zonlight, 1953). Though the venture ultimately failed, the idea of large-scale cotton growing in the basin of the Kern River was established and others would later take up the idea. In 1922, more than half a century later, a U.S. Department of Agriculture research station was established in Shafter, north of the survey area. The Alcalá variety of cotton, originally imported from Mexico, was discovered to be well suited to the soils and hydrology in the southern San Joaquin Valley and is the main variety of cotton grown in the survey area today (Carter, 1997).

Reclaiming valley swamp lands was a two-fold process, first draining the water from the land and then bringing it back in a controlled fashion. The drained land was, as Fagés and Derby had earlier observed, useless—at least in the absence of water (Zonlight, 1953). Among the attempts to overcome this problem was the creation of the Kern County Agricultural Society on March 12, 1870, followed by the organization of the Buena Vista Canal Company, to which water rights were granted on July 15.

Another obstacle to be overcome by the burgeoning agricultural interests was the remoteness of the Kern area from markets. Transportation of crops for any distance, particularly in large quantities, was nearly impossible given the poor transportation infrastructure that existed at the time. The entrance of the Southern Pacific Railroad into California changed that situation.

The first of several major impacts on agriculture in the survey area was the coming of the railroad to Kern County. Farming and ranching in the survey area escalated dramatically after 1874, when the Southern Pacific Railroad reached Sumner, just northeast of Bakersfield (having bypassed Bakersfield, where Col. Baker led a campaign to keep the railroad out). Interest in large-scale farming increased dramatically (Robinson, 1963). California laws tended to favor the development of large-scale holdings at the expense of individual owners of small tracts (Zonlight, 1953). Seeing an opportunity, James Haggin and Lloyd Tevis bought a considerable amount of land in the southeast portion of Kern County and used water from the Kern River to irrigate it. So great was the diversion of water that the Miller and Lux Cattle Company, which held the downstream riparian rights to the Kern River water in the survey area, sued them over the co-opted water. The suit resulted in the landmark 1886 water rights decision, *Lux vs. Haggin*, which led to the dual system of water law under which California now operates, i.e., prior appropriation and riparian rights (Iglén, 1996; Rose, 2000, p. 46). Eventually, the two giant land companies agreed to split the water, and Haggin and Tevis, who formed the Kern County Land Company in 1890 (Comfort, 1934; Gia, 2006), built the first dam across the Kern River and controlled the flow into Buena Vista Lake (Morgan, 2003; Rose, 2000; Treadwell, 1950). The failure

of this dam to meet the growing needs of Kern County eventually led to the building of Isabella Dam on the Kern River.

Amidst this intense and protracted battle over water, a seemingly innocuous event took place. A young woman by the name of Mary Austin homesteaded in southeast Kern County (1888). Her epochal environmental treatise *Land of Little Rain* (1903) was influenced by the squabbles over water that she witnessed while living there. Many of the current environmental laws that profoundly affect the farmers and ranchers in the survey area today can be traced to the influence of Austin's little book.

The Valley Railroad, later acquired by the Santa Fe Railroad, reached Bakersfield in 1898, providing welcome competition to the monopolistic Southern Pacific, whose price gouging was so eloquently profiled by Frank Norris in his classic 1901 tale *The Octopus* (Robinson, 1963). The more competitive shipping costs fostered further development of agriculture in the survey area, particularly of sheep and cattle ranching. Sheep and cattle grazing remained the dominant agricultural activity in the survey area until well into the twentieth century. Even today, a major portion of the valley floor and nearly all of the foothills within the survey area are used for grazing.

A second major impact on the survey area was the passage, on April 30, 1925, of the so-called "One Variety" law, which limited cotton growers to one variety of cotton in designated areas. By virtue of this law, Alcala cotton is the main variety of cotton grown in the survey area today. Until 1931, when Depression-era prices deflated its value (grapes surpassed cotton that year), cotton was the number one crop in Kern County and still remains a major crop in the survey area, grossing over \$161 million countywide in 2007 (Kern County Department of Agriculture and Measurement Standards, 1931 and 2007).

The third major impact on agriculture in the survey area occurred in 1953, when the Isabella Dam on the Kern River in the Kern River Valley created Lake Isabella. Built by the U.S. Army Corps of Engineers for flood control and irrigation, this dam supplanted the old Kern Land Company dam that kept Buena Vista Lake filled. The Isabella Dam on the Kern River and the Pine Flat Dam on the Kings River to the north render both Tulare and Buena Vista Lakes dry in most years. The dry lakebeds were used by large-scale farmers to produce a greater variety of crops than had previously been grown.

Today, agriculture is the second major industry in the survey area, after oil production. Kern County agricultural products grossed more than \$4 billion for the first time in 2007, the fourth largest in the world after neighboring Fresno, Tulare, and Monterey Counties (as of 2006). The current agricultural products in the county include dairy products, grapes, citrus fruits, almonds, pistachios, carrots, hay and alfalfa, beef cattle, wheat, apiary products, and roses (Kern County Department of Agriculture and Measurement Standards, 2007). Some of the largest ranches and farms in the world are in the survey area. In addition to portions of the historic Tejon Ranch—the largest in California—significant portions of the farm acreage of the J.G. Boswell Corporation and the 114,000-acre San Emigdio Ranch, sold to the Dale Poe Development Corporation by Tenneco West in 1989, also occur in the survey area. The world's largest pistachio-processing plant is nearby, operated by Tenneco West of Bakersfield. Tenneco fine sandy loam, 0 to 1 percent slopes (map unit 300), is named for the Tenneco West Corporation. The world's largest cotton gin, the Kern Delta-Weedpatch Cotton Gin, Inc., began operation in 1981 with a capacity of nearly 1,000 bales per day (Kern County Superintendent of Schools, 1995).

The agricultural industry enjoys considerable economic benefits from oil and gas subsidies, and oil-extraction efforts are complicated by regulations designed to protect the ground water necessary for agriculture and the general population (Dixon, 1988; Mitchell, 1989). The dual-purpose land use tends to be mutually beneficial; both agriculture and oil interests derive economic and political benefit from the arrangement.

Parks and Recreation

Recreation and tourism are minor industries in the survey area, centered around Lakes Webb and Evans on the north edge of the basin of Buena Vista Lake (fig. 5). Lakes Webb and Evans constitute the Buena Vista Aquatic Recreational Area. Portions of a third lake, Lake Castac, lie in Tejon Canyon, near Lebec. Lake Webb was named for former Kern County Supervisor Vance A. Webb and Lake Evans for former Supervisor R.H. Evans.

The man-made Buena Vista Aquatic Recreation Area is the last remnant of the historic Buena Vista Lake. Groundbreaking took place on January 30, 1972, and the recreation area officially opened on November 4, 1974. The towns of Frazier Park, Lebec, and Lake of the Woods derive the bulk of their economic resources from recreational activities associated with Castac Lake, Fort Tejon State Historic Park, and the Las Padres National Forest, which has a significant number of off-road vehicle trails.

The Bitter Creek National Wildlife Refuge, home to the endangered California condor, is situated entirely within the survey area. Created in 1985, this 14,097-acre refuge is administered by the Hopper Mountain Wildlife Refuge Complex in Ventura, California. It is not open to the public. The last female wild condor was trapped in the refuge in 1986.

The Wind Wolves Preserve, which is in the southern part of the survey area, was acquired by the Wildlands Conservancy in the 1990s. It is the largest nonprofit preserve on the West Coast. The preserve includes the historic San Emigdio Ranch and many surrounding areas with grasslands, conifers, California blue oak, and valley oak savanna as well as extensive riparian wetlands (Wildlands Conservancy, 2008).

Part of the Carrizo Plain National Monument is in this survey area. From just inside the southwestern border of the survey area, this monument extends to the Bitter Creek National Wildlife Refuge. It was created in 2001 as one the last acts of President Bill Clinton. The 204,107-acre monument protects numerous endangered floral and



Figure 5.—Lake Webb, in the basin of Buena Vista Lake. Photo by Robin M. Roberts, NRCS Earth Team Volunteer.

faunal species, including the San Joaquin kit fox, the California condor, the pronghorn antelope, the tule elk.

Fort Tejon State Historical Park, a 5-acre area in the historic Fort Tejon complex, was deeded to the State of California in 1940 by the Tejon Ranch Company. It is along Interstate 5, directly south of Lebec, in Tejon Canyon. Restoration of the remaining fort buildings began in 1947.

Assorted county parks are throughout the survey area, including the A.W. Noon Memorial Park, Valley Acres County Park, Derby Acres County Park, and Taft Heights County Park.

Special use land features, such as parks and monuments, affect the soil much differently than does farming or oil production. In the case of Bitter Creek National Wildlife Refuge, very little human disturbance of the soil will take place in the future. In contrast, ongoing restoration and interpretive efforts at Fort Tejon alter the soils considerably. Between these two extremes is the Carrizo Plain National Monument, where preservation and interpretation are balanced.

Population Trends

The population of Kern County has grown considerably since 1870, when it was 2,925. According to the 2000 census, 661,645 people resided in Kern County, roughly 39,800 of these in the survey area. In 2005, the latest year for which population estimates are available, an estimated 756,825 people resided in Kern County. Of those, approximately 45,500 live within the confines of the survey area; half of these live in either Taft or in Lamont, a suburb of Bakersfield.

Towns

This survey area has no major cities but has several small towns, most of which owe their existence to the oilfields. The largest town in the survey area is Taft (elevation 987 feet). Incorporated in 1910, it was named for then President William Howard Taft. One of only two small, incorporated towns in the survey area, Taft serves as the economic center of the west-side oil-producing communities. In 1908, the town was founded near the Midway oilfield and named "Moron." President William H. Taft spoke at a west-side Southern Pacific depot on October 10, 1909, and the town of Moron was renamed Taft in the President's honor. The name change was made official when the Taft post office was approved in April 1910. The town was nearly destroyed by fire on October 22 of that year, but it rebounded. It incorporated as a strategy to deal with future fires.

Maricopa (elevation 854 feet), the other incorporated city in the survey area, is considerably smaller than Taft. Like Taft, it serves as a residential center for oil workers in the southern part of the Temblor Range fields. The town was founded in 1906, when the first store at that location opened. Originally called "Monarch," the town was later named for a tribe of Arizona Indians. The town plat was filed on April 5, 1910, and the city of Maricopa was incorporated on July 11, 1911.

Portions of the incorporated city of Arvin (elevation 445 feet) lie just inside the extreme northeast border of the survey area. In early 1914, the town of Arvin was laid out and named for Arvin Richardson, an early storekeeper. The Arvin post office was established on July 2, 1914. In 1922, the nearby town of Weedpatch (elevation 387 feet) was founded. Weedpatch clay loam, 0 to 1 percent slopes (map unit 340), is named for this town. Both Weedpatch and Arvin gained national attention after the Arvin Federal Migratory Camp (better known as Sunset Labor Camp) was opened between Arvin and Weedpatch on December 12, 1935. Famed photographer Dorothea Lange created some of her most famous photographs of Dust Bowl migrants there during 1937 and 1938. A year later, John Steinbeck's Pulitzer award-winning novel, *The Grapes of Wrath*, set largely in Weedpatch and Kern County and based on Steinbeck's experiences while visiting the Sunset camp, created a national controversy

when its portrayal of local citizens and civic leaders led the Kern County Board of Supervisors to ban it from Kern County libraries and schools (Campbell, 1974; Lingo, 2003; Loftis, 1990).

The community of Lamont (elevation 400 feet) was founded in 1925, even though the town plat was approved on July 16, 1923. The town of Ford City (elevation 875 feet), near Taft, was founded November 21, 1921, and named for the Model-T Ford automobile. The town plat was approved by the Kern County Board of Supervisors on April 3, 1924. In July 1923, Wheeler Ridge (elevation 964 feet) was founded by the Midway Gas Company and named for surveyor George M. Wheeler. The town plat was approved by the Board of Supervisors in June, and the post office was established on August 23. Wheeler Ridge is notable as the terminus of U.S. Highway 99. On September 14, 1926, a post office was established at Frazier Park (elevation 4,767 feet), and in 1930, the development of Derby Acres (elevation 1,366 feet), near Taft, began. The town of Fellows (elevation 1,319 feet), named for Charles A. Fellows, was founded in 1909. The post office there was officially established on March 16 of that year.

Among the other unincorporated census designated places (CDP) within the survey area are Dustin Acres, Valley Acres, Mettler, and Lebec. Directly outside the southern edge of the survey area, in the Los Padres National Forest, are the Pine Mountain Club development and Lake of the Woods.

Portions of the historic Tejon Ranch are in the survey area, but no information on the soils of the ranch lands is available because no access to those lands was granted to the study team.

Transportation Infrastructure

The transportation infrastructure in the survey area includes roads, railroads, canals and waterways, and airports.

Roads.—Interstate 5 runs diagonally through the northeastern portion of the survey area. It is the main arterial link between the survey area and the outside world. State Highway 119, connecting Bakersfield with Taft, runs along the northern boundary of the survey area, before turning southwest and terminating in Taft. State Highway 33 enters the survey area in the extreme northwest corner and parallels the western boundary of the area. It intersects with State Highway 166 in Maricopa before continuing south over the Sierra Madre Mountains to southern California. State Highway 166 runs east and west through the center of the survey area, bisecting the area and connecting Maricopa with Interstate 5 at Mettler before continuing west to the coast. State Highway 223 parallels both Highway 119 and Highway 166 and connects Arvin with the Buena Vista Lake Bed. Finally, the Potrero Highway runs through the San Emigdio Mountains, just outside the survey area and largely through Los Padres National Forest land. It connects Tejon with the Bitter Creek National Wildlife Refuge, which is in the survey area. Several smaller roads are throughout the survey area, but much of the interior of the area is inaccessible to public traffic.

Railroads.—The Sunset Railway connects the west-side oilfields with the main tracks of the Southern Pacific Railroad, running from Taft south to just east of Maricopa at Pentland, before turning northeast, skirting the Buena Vista Lake Bed on the south side, and connecting to the main Atchison, Topeka and Santa Fe rail line in Bakersfield. The survey area has no other rail lines, except for minor connecting tracks in the oilfields.

Canals and waterways.—The only waterborne transportation in the survey area is for minor recreational purposes. The Kern River enters the survey area from the northeast, but it is immediately subsumed for irrigation purposes. The California Aqueduct is a major physical feature in the survey area, but navigational use is strictly limited to maintenance purposes. The survey area has a few small agricultural canals, used largely to support ranches in the area. In 1951, the Friant-Kern Canal was

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completed. Though it is outside the survey area, it supplies water to the area through the Cross Valley canal, which connects it with the California Aqueduct via the Buena Vista Slough. In 1968, the first California Aqueduct water from the Feather River Project reached Kern County. Both the Friant-Kern Canal and the California Aqueduct bring water to the historic Buena Vista Lake Bed. The aqueduct flows through the center of the survey area, and most of the massive pumps that lift the water over the Sierra Madre and Tehachapi Mountains to southern California are located in the survey area, including the massive Wind Gap and Wheeler Ridge Pumps (fig. 6).

Airports.—The nearest airport of significant size near the survey area is the Kern County Airport (Meadows Field), which is outside the survey area, directly north of Bakersfield. Taft Municipal Airport serves as a shuttle connection for the oilfields, and a few private landing strips servicing the oilfields or agricultural lands are in scattered areas throughout southwest Kern County.



Figure 6.—Wind Gap Pumping Station for the California Aqueduct. Photo by Robin M. Roberts, NRCS Earth Team Volunteer.

Physiography, Relief, and Drainage

This survey area is on the western slope of the southern San Joaquin Valley along with portions of the mountains and foothills of the southern Coast Range Mountains and the northern Sierra Madres Mountains along the southern border. The Los Padres National Forest marks the extreme southern border of the survey area. It includes most of the San Emigdio Mountains, except for the Pleito Hills and Wheeler Ridge. The survey area marks the beginning of the Transverse Ranges, so named because of their approximate perpendicular orientation to most of the rest of the large mountain ranges in the State. The Temblor Range of the California Coast Range Mountains, including the Elk Hills, dominates the northwest corner of the survey area and has the bulk of the oilfields. It is separated from the Caliente Range by the Carrizo Plain, through which the San Andreas Fault runs.

The part of the survey area in the San Joaquin Valley is dominated by the Buena Vista Lake Bed. The valley floor consists of a nearly level basin floor and fan skirts and sharply sloping alluvial fans and fan remnants. It makes up just over half of the survey area.

The primary source of water in the historic Buena Vista Lake Basin is the Kern River, which collects water from the Sierra Nevada and travels to the southwest through Bakersfield. Its water is largely depleted through agricultural, industrial, and municipal uses before it can reach the lakebed. The Lake Isabella dam controls the flow in the lower Kern River, accounting for this depletion. The Buena Vista Slough and the Kern River Channel merge with the Kern River just north of the border of the survey area, near the Tule Elk Preserve. The Kern River enters Buena Vista Lake from the north where the Kern River is blocked by the Elk Hills.

Other sources of water in the Buena Vista Lake Basin include intermittent streams from the south, such as Bitter Creek, Santiago Creek, Los Lobos Creek, the San Emigdio Creek complex, Pleito and Pleitito Creeks, the Salt Creek complex, and Tecuya Creek, which drain the San Emigdio Mountains portion of the Transverse Ranges. These waters are largely dispersed before reaching the historic Buena Vista Lake Bed. The drainageways are dry much of the year but carry an extremely heavy flow during thunderstorms and spring runoff, as evidenced by large boulders on fan remnants deposited during flooding of the creeks.

To the west, numerous intermittent streams carry rain and snowmelt from the Temblor Range into the lakebed, the most prominent being the Buena Vista Creek complex in the extreme northwest corner of the survey area, the Broad Creek complex north of Taft, and the Bitterwater complex at Maricopa. The northwest side of the lake receives intermittent stream runoff from the Elk Hills, and the southwest side receives runoff from the Buena Vista Hills.

Connecting Slough, in the southeast part of Buena Vista Lake, provides an outlet from Buena Vista Lake that has a terminus in Kern Lake. Both of these lakes historically received periodic Sierra Nevada runoff from the north via the Kern River in all but the driest years. The low point in the San Joaquin Valley to the north of Buena Vista Lake became a surface hydrologic transport system for waters from Buena Vista and Kern Lakes during years of very high runoff from the Sierra Nevada. These waters entered the much larger Tulare Lake 50 miles (80 kilometers) to the north. Tulare Lake was "once the largest body of fresh water west of the Great Lakes" (Haslam, 1994), approximately 100 feet (30.5 meters) lower in elevation than Buena Vista Lake. From Tulare Lake, these high flows traveled north through the Fresno Slough and the San Joaquin River, eventually entering the California Delta and the Pacific Ocean (Preston, 1981).

On the east side of the survey area, Grapevine Creek drains Tejon Canyon and the Pastoria Creek and Liveoak Creek complexes drain from the Tehachapi Mountains into the survey area. Farther north, a manmade canal connects a small impoundment on the Kern Mesa above Arvin with another impoundment near Mettler.

Much of the historic hydrology has been altered in the survey area. Most of the rainfall occurs in winter and spring, as is typical of areas with a Mediterranean climate. The Buena Vista Lake Basin is subject to flooding and ponding in years of abnormally high precipitation, primarily from the Sierra Nevada, but also from drainage from the Transverse Ranges and Temblor Range.

Geology

This survey area is seismically active, having had major (5.0 or above) earthquakes in 1857 and 1952 and strong earthquakes in 1875, 1905, 1988, and 1993. The San Andreas Fault runs across the extreme southwest corner of the survey area, and the White Wolf Fault terminates near the northeast corner of the area.

The first major recorded earthquake, the Fort Tejon earthquake, took place on January 9, 1857. It was one of the strongest earthquakes ever recorded in the United States. Measuring 7.9 Mw on the Richter scale, the right-lateral, strike-slip movement left a surface rupture scar over 350 kilometers in length along the San Andreas Fault. An average 9-meter offset was recorded, including 30-foot offsets in the Carrizo Plain area. Included among the casualties of the quake were a number of old buildings at the abandoned Fort Tejon (Scott, 2006). On July 21, 1952, the Kern County earthquake, measuring 7.5 Mw on the Richter scale, occurred along the White Wolf Fault. The left-lateral, reverse fault movement resulted in a 4-foot elevation change and was accompanied by numerous aftershocks, including 20 measuring 5.0 ML or greater. Arvin was particularly hard hit as it was built on reclaimed swamp land that magnified the movements. Major leveling of the soil to repair damage severely altered the soil profile in many areas, including areas within the boundaries of this survey.

Two lesser but still strong earthquakes shook the survey area within recent history. The first, occurring on June 10, 1988, and centered on the Tejon Ranch, measured 5.4 ML on the Richter scale and caused the Edmundson pumping plant to temporarily shut down. The other, known as the Wheeler Ridge earthquake, took place on March 27, 1993. It measured 5.2 ML on the Richter scale. The epicenter was near Pumpkin Center, in the northern part of the survey area.

Climate

Prepared by the National Water and Climate Center, Natural Resources Conservation Service, Portland, Oregon. The temperature and precipitation information in figures 7, 8, and 9 was derived from climate data developed by the PRISM Group, Oregon State University (<http://www.prismclimate.org>).

Climate tables were created from climate stations in Maricopa, California, which is in the survey area, and Bakersfield, which is near the northeast corner of the survey area. Thunderstorm days, relative humidity, percent sunshine, and wind information are estimated from Bakersfield data.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Maricopa and Bakersfield in the period 1971-2000. Table 2 gives data on precipitation as recorded at Lebec during the period 1971-2000. Table 3 shows probable dates of the first freeze in fall and the last freeze in spring. Table 4 provides data on the length of the growing season.

In winter, the average temperature is 48.5 degrees F and the average daily minimum temperature is 38.3 degrees. The lowest temperatures on record are 15 degrees at Maricopa on December 6, 1978; 19 degrees at Bakersfield on December 23, 1998; and 8 degrees at Lebec on January 18, 2001. In summer, the average temperature is 80.7 degrees and the average daily maximum temperature is 94.8 degrees. The highest temperatures on record are 116 degrees at Maricopa on July 1, 1950, and 115 degrees at Bakersfield on the same day.

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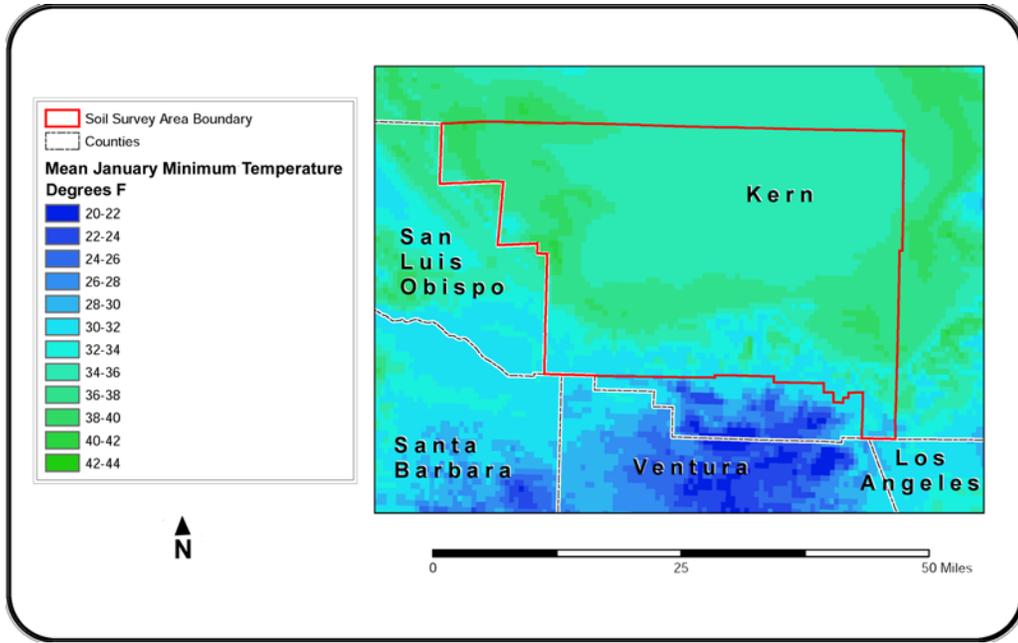


Figure 7.—Average minimum January temperatures for the region centered on the southwest part of Kern County, based on PRISM data for 1971-2000.

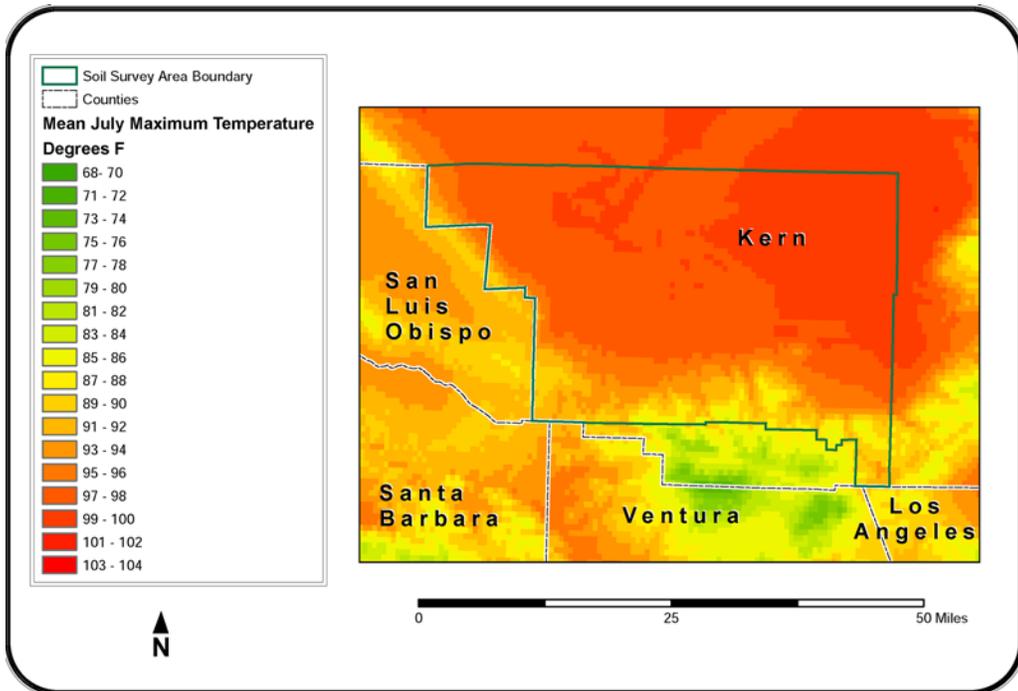


Figure 8.—Average maximum July temperatures for the region centered on the southwest part of Kern County, based on PRISM data for 1971-2000.

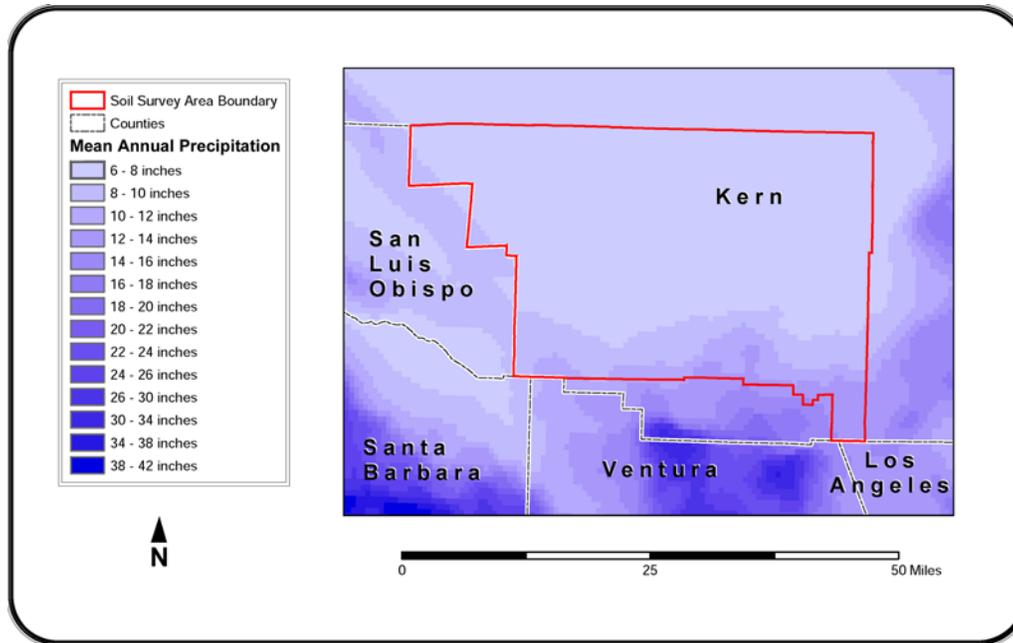


Figure 9.—Average annual precipitation for the region centered on the southwest part of Kern County, based on PRISM data for 1971-2000.

Growing degree days are shown in table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The heaviest 1-day rainfall during the period of record was 4.15 inches at Maricopa on February 10, 1978; 2.29 inches at Bakersfield on February 9, 1978; and 4.84 inches at Lebec on December 6, 1997. Thunderstorms occur on about 4 days each year, and most occur in August.

Rainfall in the survey area averages about 7 inches per year (the 30-year trend in Taft is 7.26 inches per year). The driest year on record in Kern County was 1959, when only 1.87 inches of rain was measured near Bakersfield. The wettest year on record was 1978; from the beginning of that year to June 30, Bakersfield received 11.73 inches of rain.

Snowfall has not been recorded at Maricopa, and measurable snow is rare in Bakersfield. The heaviest 1-day snowfall at Bakersfield during the period 1932 to the present was 4 inches on December 11, 1932. At Lebec, the heaviest 1-day snowfall during the period 1948 to 2008 was 7.0 inches on March 8, 1974, and an average of 2.0 days per year have at least 1 inch of snow on the ground. The average total annual snowfall at Lebec is 5.0 inches.

The average relative humidity in midafternoon is about 39 percent. Humidity is higher at night, and the average at dawn is about 69 percent. The sun shines 93 percent of the time possible in summer and 73 percent in winter. The prevailing wind is from the west-northwest. Average windspeed is highest, 7.7 miles per hour, in April and May.

Climate plays in an important role in the formation of soils. The relationships between climate and soil formation are explained in the section “Formation of the Soils.”

Altered Soils

By Kerry D. Arroues, USDA, Natural Resources Conservation Service.

The view from a passing automobile in California's Great Central Valley is one of a series of straight lines delineating fields of crops. The lines typically run north-south and east-west, as they conform, in general, to the Township and Range System of the U.S. Survey of Public Lands. A series of squares dominate a satellite view of the valley.

The squares on the east side of the valley generally are much smaller than the squares on the west side. The pattern of the crops and the size of the farms dramatically illustrate the differences between the east and west sides of the valley. Each square represents a significant and permanent change in the natural landscape.

According to the American Farmland Trust, California's Great Central Valley is the most threatened resource area in United States. This assessment is based on the market value of Central Valley agricultural production, the development pressure, and the quality of the land in the valley (American Farmland Trust, 1995). The San Joaquin Valley in this survey area is part of this threatened resource area.

The impact of urbanization on the soils is significant and permanent. Also, many soil properties are permanently altered by such farming practices as land leveling and irrigation. Some of these impacts are obvious, such as those resulting from the application of irrigation water. Other practices are more subtle and have an indirect impact. An example is pumping water and oil from deep wells, which contributes to subsidence. Subsidence, in turn, affects the geomorphology of the region and influences flooding.

Agricultural operations have a significant impact on the properties, classification, and management of the soils in this survey area. Most of the survey area is in the San Joaquin Valley and is used for farms and ranches. The impact of agricultural operations occurs not only near the surface of the soil but also deep into the soil profile, where the wetting front of irrigation water moves.

The agricultural operations that affect soil properties include land leveling for irrigation purposes, deep tillage or ripping, and cultivation. Ground-water withdrawal and the application of water for surface irrigation have caused subsidence, which, in turn, has changed the geomorphology in many areas on the west side of the valley. Surface irrigation of soils across most of the valley has caused numerous climatic changes, and moisture received from precipitation makes up less than 20 percent of the total water on the soils. Some soils are less saline-sodic or saline now than they were prior to irrigation, but other soils are becoming saline-sodic. Saline-sodic and saline soils were partially reclaimed by the addition of soil amendments and by leaching of the salts. Perched water tables have resulted from poor drainage and the application of surface irrigation water. Major water management structures, such as dams and canals, have slowed or stopped alluvial fan deposition in most areas.

Land Leveling for Irrigation

Extensive land leveling has taken place throughout the irrigated cropland in the survey area (fig. 10). This practice has had a significant impact on soil depth and on the depth to diagnostic horizons.

Most of the cultivated fields in the survey area slope to the basin floor of the Buena Vista and Kern Lake Beds. Land leveling has cut soil material from the higher sides of these fields and filled the lower sides of the fields with the cut soil material. On the high sides, this practice exposes soil horizons that are normally evident deeper in relatively unaltered soils, and on the low sides, it buries the surface layer under fill material.

Land leveling has a profound impact on soil classification. Identification of diagnostic horizons can be difficult when the surface has been altered by the removal or addition of soil. Subsoil horizons can be significantly altered and, in some cases,



Figure 10.—Land leveling in an area of map unit 210, Kimberlina fine sandy loam, 0 to 2 percent slopes.

destroyed by this practice. It can be very difficult to document and identify changes in the clay content of a horizon that has been removed or in one that has been covered by unrelated soil material.

Land leveling commonly destroys or significantly alters soil structure. Identification of soil horizons in the absence of strongly expressed characteristics becomes difficult because of the degree of alteration.

Ripping

Many fields are ripped to a depth of 24 inches (61 centimeters). This practice affects soil horizons to a depth of at least 30 inches (76 centimeters). Some areas are slip plowed or ripped to a depth of more than 60 inches (152 centimeters).

The purpose of ripping is to modify naturally occurring restrictive layers as well as the artificial layers created by past agricultural operations. Generally, naturally occurring restrictive layers, such as horizons with a significant increase in clay content, are deeper than artificial restrictive layers. In this survey area, ripping alters dense soils characterized by an increase in clay content in the subsoil, stratified soils, saline-sodic soils, clayey soils, and soils that have been affected by compaction, including natural compaction and the compaction that results from farming practices.

Deep ripping affects the surface layer, the subsoil, and the upper part of the substratum. It is difficult to document the resultant mixture of surface and subsoil horizons. Even where a subsoil horizon can be identified in a given area, it is difficult to determine whether the observed depth to the horizon is typical of the soil that occurred naturally in that area. The typical depth to subsoil horizons can be deceptive in areas affected by agriculture. An intact subsoil horizon may just be an unusually deep subsoil that extended below the effect of the land-leveling equipment or the ripper shank pulled behind a tractor.

Deep ripping also has had a significant impact on soil structure. Prismatic and columnar structure and slickensides are often destroyed. Changes in the grade, size, and type of soil structure are common. Soil structure is one of the characteristics of many subsoil horizons, and ripping often obliterates this structure, making

classification of soils with weakly expressed subsoil horizons problematic (Soil Survey Staff, 2006).

Cultivation

Cultivation for such practices as seedbed preparation primarily impacts the upper 1 foot (30 centimeters) of the soil. The impacts include changes in soil structure grade, size, and type; destruction of organic matter; mixing of surface horizons; possible accelerated erosion; and possible development of a compacted layer known as a plowpan. Development of a compacted layer directly below the surface of the soil may necessitate the use of deep ripping to provide a deeper root zone for crops and to improve drainage.

Organic Matter

Farming practices, such as disking, ripping, and leveling, have altered the distribution of organic matter in the soils in the survey area. Disking during the summer months exposes the organic matter in the soils to high temperatures, which can reduce the amount of organic matter.

Accelerated Erosion

Accelerated erosion, which is caused by human activities, is as old as human history. The "Dust Bowl" of the 1930s comes immediately to mind, but evidence indicating accelerated erosion can be subtle. It is much easier to prove that erosion has human causes if it can be observed to be taking place over a given timespan.

In this survey area, accelerated erosion has occurred primarily through petroleum-extraction activities, such as road construction and the construction of pads for oil wells; through cultivation and the resulting lack of cover on sandy soils; and through past livestock grazing on highly sodic soils. Of these three activities, the effects of petroleum-extraction activities are the most obvious because of the exposure of bedrock and removal of the surface layer in the areas affected by road building and the construction of pads for oil wells. This erosion is identified in some map unit names, such as Sodic Haplocambids, thick-Torriorthents, thin-Torriorthents, very thin, eroded, complex, 30 to 60 percent slopes (map unit 729).

Surface horizons with a texture of loamy sand may begin to erode quickly after the soil is cultivated and left exposed to the wind. Most of the soils demonstrating significant accelerated wind erosion in this survey area have sandy loam or coarser textures.

Subsidence Resulting From Ground-Water Withdrawal

Significant land subsidence has occurred in this survey area, although not nearly as extreme as subsidence 100 miles (161 kilometers) further to the north, along the west side of the San Joaquin Valley. Subsidence in the San Joaquin Valley is one of the great changes that human activity has imposed on the environment. The maximum subsidence in the survey area totaled 8 feet (2.4 meters) by 1972. Throughout most of the survey area, subsidence has occurred so slowly and over such a broad area that its effects have gone largely unnoticed by most residents. Extraction of ground water in the San Joaquin Valley for irrigation purposes increased from 3 million acre-feet in 1942 to 10 million acre-feet in 1964 (Poland and others, 1975).

The San Joaquin Valley has the largest vertical subsidence (29.7 feet, or 9 meters), the largest areal extent (5,400 square miles, or 8,690 square kilometers) of subsidence, and the largest volume (16 million acre-feet) of subsidence in the world because of ground-water withdrawal (Bertoldi, 1991). The 16 million acre-feet of subsidence is substantially the same as the amount of water derived from deformation

of the interbeds in the aquifer system. The water thus derived is called “water of compaction” (Bertoldi, 1991). According to Lofgren (1977), this “volume is a onetime quantity of water mined from the reservoir.”

Construction of the California Aqueduct and withdrawal of the irrigation water that it supplied reduced the amount of overdraft of the ground-water supply. Rates of land subsidence have slowed appreciably since 1972. During periods of drought in 1977 and the early 1990s, however, subsidence continued as a response to increased pumping of ground water.

One of the largest impacts resulting from land subsidence is change in the elevation and gradient of stream channels, drains, and other water-transporting facilities. This change results in entrenchment in many stream groups that fan onto the soils in the San Joaquin Valley, as was observed in west-side soils in Fresno County. “Results show that the majority of channel incision observed in the lower fan has occurred since 1933, and it appears to be a direct response to land subsidence resulting primarily from ground water extraction” (Leclerc and others, 1998).

Intermittent streams, such as the many streams that travel north from the San Emigdio Mountains down to the basin floor, may become more deeply entrenched into the fan remnants and alluvial fans as subsidence occurs. In areas where stream entrenchment occurred as a response to the subsidence that has occurred in the past 60 years, soils that were subject to flooding 60 years ago may not be flooded now.

Subsidence Resulting From Withdrawal of Oil

Oilfield subsidence is known to occur in a few small areas in southwest Kern County (Lofgren, 1977). Generally, this subsidence is less than 1 foot (30 centimeters) in isolated areas. This type of subsidence has little overall effect on the long-term subsidence trends in the survey area.

Hydrology and the Influence of Major Water-Management Structures

Much of the historic hydrology has been altered in the Buena Vista Lake Basin (figs. 11 and 12). Most of the rainfall occurs in the winter and spring, as is typical of areas with a Mediterranean climate. The Buena Vista Lake Basin is subject to flooding and ponding in years of abnormally high precipitation, primarily from the Sierra Nevada but also from drainage from the Transverse Ranges and Temblor Range.

Some of the soils in the vicinity of the Buena Vista and Kern Lake Beds have a high water table within 6 feet (183 centimeters) of the surface with fluctuations as high as 4 feet (122 centimeters). These soils include Fages, Copus, Zalvidea, Lokern, and Millox soils. These water tables are perched on layers or strata with significant changes in soil texture, generally within 30 feet (9.1 meters) of the surface. Perched water tables were initially lowered by the following forms of artificial drainage:

1. Dams and reservoirs
2. Pumping of the water tables
3. Filling and leveling of the sloughs in the area where lateral waterflow has been interrupted
4. Tile drains in the fields (including tile drains that intercept seepage from a canal, river, or slough)
5. Levees that provide protection from very long periods of flooding

Dams and canals effectively slowed or stopped alluvial fan deposition in much of this survey area. The geomorphic responses to major water-management structures, such as dams, canals, and levees, have been significant. The California Aqueduct effectively became an aquitard as it truncated intermittent natural drainages in the Buena Vista Lake Bed.

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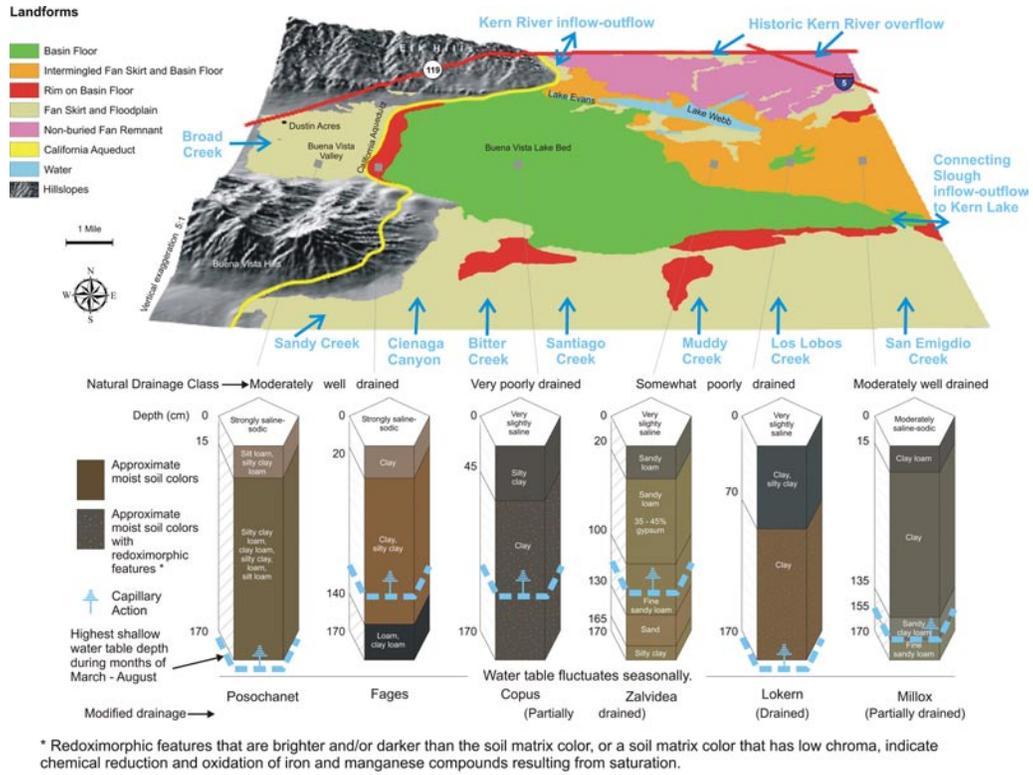


Figure 11.—Soil hydrology and geomorphology model of the Buena Vista Lake Basin.

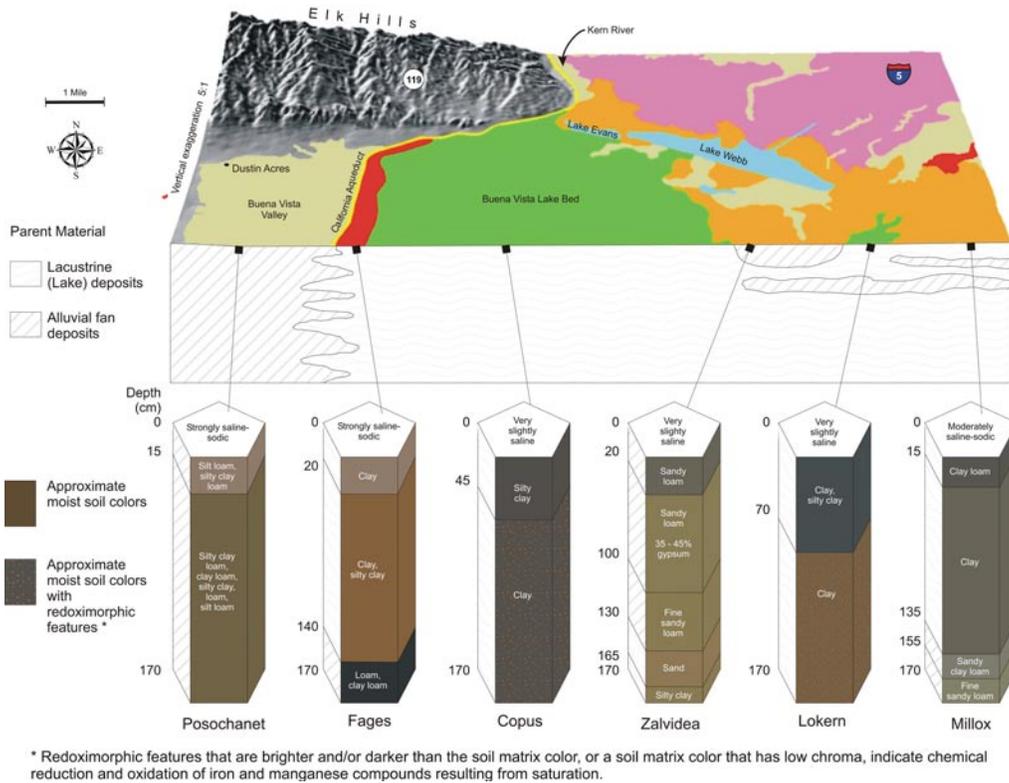


Figure 12.—Soil, landscape, and stratigraphy model of the Buena Vista Lake Basin.

Flooding characteristics were forever changed by the introduction of these structures. The Buena Vista Lake Bed is rarely flooded now because of the diversion of much of the Kern River water to valley farms and cities and the impoundment of runoff from the Transverse Ranges behind the California Aqueduct. The Buena Vista Lake Bed is now an area of productive farmland.

Sedimentation and alluvial fan-building processes also have been altered. Natural alluvial fan-building processes are generally considered to be incompatible with such human uses as agriculture and rural and urban centers. Attempts have been made to alleviate these incompatibilities by confining water behind levees and dams, such as Isabella Dam (fig. 13). These attempts are successful for a time, but flooding eventually occurs. The flooded areas are not always the same areas that were flooded historically.

Irrigation and Climate

About 3 feet (91 centimeters) of irrigation water per year is applied for crop production to the average soil in many parts of this survey area. Prior to the introduction of irrigation, only 7 to 9 inches (18 to 23 centimeters) of annual precipitation, coupled with floodwater, was available for soil development.

Irrigation has many effects on soil properties. The downward movement of carbonates, gypsum, fertilizers, salts, and various amendments through the soil profile has created cambic horizons (Soil Survey Staff, 2006). Zones of removal or concentration of these soil constituents are evidence of the alteration of soil to a depth of more than 24 inches (61 centimeters). Cambic horizons are evidence of the effects of irrigation water. Many soils may have had a cambic horizon before irrigation in this



Figure 13.—South Fork of the Kern River entering Isabella Lake about 60 miles upstream from Buena Vista Lake. The hydrology of Buena Vista Lake was dramatically altered by the dams on the Kern River that created Isabella Lake.

semiarid environment. Some of the cambic horizons were altered or destroyed and then resurrected as newly formed cambic horizons.

Salinity and Drainage

The addition of soil amendments and the effects of salt leaching partially reclaimed saline-sodic and saline soils. Perched water tables resulted from poor drainage and the introduction of irrigation water. Some soils are less saline-sodic or saline now than they were before irrigation, but other soils are becoming more saline-sodic. See the section "Saline-Sodic Soils."

Seasonal Altered Hydrology

Historically, water tables were closer to the surface in most of the survey area than they are now. The soils are identified as "drained" or "partially drained" to indicate that drainage changes have taken place. Typically, the water table is highest in March, before crops are irrigated. About 3 feet (91.4 centimeters) of irrigation water is applied for crop production in many parts of this survey area. Usually, the high water table drops below a depth of 6 feet (183 centimeters) after August, when the amount of irrigation is reduced. Prior to the introduction of irrigation, only 5 to 7 inches (12.7 to 17.8 centimeters) of annual precipitation, coupled with floodwater, was available to plants.

Most of the soils in the survey area that have a perched water table within 6 feet (183 centimeters) of the surface are currently cultivated. Most have been drained by dams, reservoirs, levees, and the filling and leveling of sloughs. Some of the soils also are drained by pumping from the water table and by tile drains.

Soil Amendments and Fertilizers

In this survey area, gypsum has been applied to saline-sodic soils in many areas since reclamation of these soils began. This practice has had profound effects on the soils. These effects include the following:

1. Sodium is leached from the profile. A natric horizon can become an argillic horizon.
2. Soil structure is changed because of changes in the composition of specific cations attached to the clay particles in the soil.
3. Soil reaction (pH) is reduced not only by application of gypsum but also by amendments, such as sulfur and sulfuric acid.

Fertilizers, such as ammonium sulfate, ammonium nitrate, and ammonium phosphate, also can affect the reaction of many soils to which they have been applied.

Conclusion

Agricultural operations have had and continue to have a significant impact on the properties, classification, and management of the soils in this survey area. Soil surveys are more beneficial if soil modification is addressed. In the valleys of this survey area, the soils that previous generations recognized are seldom evident today. These soil modifications have been recognized in this report.

Present-day soil characteristics are important to users. It is important to describe and classify soils as they currently exist rather than as they occurred historically. Providing current information about the soils permits an accurate portrayal of the use and management practices appropriate for the soils. Paradoxically, there is value in preserving the concept and legacy of the original soil. This effort will assist us in explaining the characteristics of the modified soil. The "roots" of the soil that we observe today have an attachment to the natural, unmodified soil. This connection between the past and the present is an important consideration when decisions

regarding use and management of the soils are made. Unfortunately, there are few places in the valley where one can observe a natural soil profile (Amundson, 1998). As a result, it is difficult to determine exactly what the unmodified soil looked like.

One of the best sources of information about modified soils is historic soil surveys. Even historic soil surveys, however, commonly used modified soils when typical profiles for soil series were selected (Harradine and others, 1956). Understanding the soil as it currently exists requires knowing how the soil was modified and what soil properties have been changed. Temporal or permanent change can then be explained. With this understanding, some of the changes that may occur in the future can be projected and map units that are more adapted to those changes can be designed.

How This Survey Was Made

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

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

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

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

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics

Soil Survey of Kern County, California, Southwest Part

and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

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

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

General Soil Map Units

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Soils on the basin floors and nonburied fan remnants in the southern part of the San Joaquin Valley

These soils make up about 10 percent of the survey area.

1. Copus-Lokern

Very deep, very poorly drained and somewhat poorly drained soils that formed in lacustrine deposits derived from rocks of mixed mineralogy and in lacustrine deposits over alluvium derived from rocks of mixed mineralogy; on basin floors

Map unit setting

Landform: Basin floors

Slope: 0 to 1 percent

Composition

Extent of the map unit:

6 percent of the survey area

Extent of the components in map unit:

Copus soils—43 percent

Lokern soils—29 percent

Minor components—28 percent

Soil properties and qualities

Copus

Depth class: Very deep

Drainage class: Very poorly drained

Landform: Basin floors

Parent material: Lacustrine deposits derived from rocks of mixed mineralogy

Texture of the surface layer: Silty clay

Slope: 0 to 1 percent

Lokern

Depth class: Very deep

Drainage class: Somewhat poorly drained

Landform: Basin floors

Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy

Texture of the surface layer: Clay

Slope: 0 to 1 percent

Minor components

- Bakersfield, Buttonwillow, Fages, Garces, Oldriver, and Vineland soils on basin floors and flood plains
- Excelsior, Granoso, Gujarral, Kimberlina, Milagro, Millox, Tennco, and Zalvidea soils on basin floors, flood plains, alluvial fans, fan skirts, and fan remnants

Use and management

Major uses: Irrigated crops and homesite development

Management concerns: High water table, saline-sodic conditions, restricted permeability, flooding, and shrink-swell potential

Management measures: A properly maintained drainage system, water management, management of saline-sodic conditions, selection of suitable plants, and proper design of foundations and waste-management structures

2. Garces-Millox

Very deep, well drained and moderately well drained soils that formed in alluvium derived from granitoid rock and in lacustrine deposits over alluvium derived from granitoid rock and/or rocks of mixed mineralogy; on nonburied fan remnants and on basin floors

Map unit setting

Landform: Nonburied fan remnants and basin floors

Slope: 0 to 2 percent

Composition

Extent of the map unit:

4 percent of the survey area

Extent of the components in map unit:

Garces soils—42 percent

Millox soils—25 percent

Minor components—33 percent

Soil properties and qualities

Garces

Depth class: Very deep

Drainage class: Well drained

Landform: Nonburied fan remnants

Parent material: Alluvium derived from granitoid rock

Texture of the surface layer: Loam

Slope: 0 to 1 percent

Millox

Depth class: Very deep

Drainage class: Moderately well drained

Landform: Basin floors

Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy

Texture of the surface layer: Clay loam

Slope: 0 to 1 percent

Minor components

- Bakersfield, Buttonwillow, Copus, Excelsior, Granoso, Oldriver, and Vineland soils on flood plains, basin floors, alluvial fans, and nonburied fan remnants

Use and management

Major uses: Irrigated crops and homesite development

Management concerns: Saline-sodic conditions and shrink-swell potential

Management measures: Water management, management of saline-sodic conditions, selection of suitable plants, and proper design of foundations and waste-management structures

Soils on alluvial fans, flood plains, fan remnants, basin floors, and fan skirts in the southern part of the San Joaquin Valley

These soils make up about 55 percent of the survey area.

3. Bakersfield-Oldriver

Very deep, somewhat poorly drained soils that formed in alluvium derived from granitoid rock; on flood plains

Map unit setting

Landform: Alluvial fans, fan remnants, or flood plains

Slope: 0 to 2 percent

Composition

Extent of the map unit:

8 percent of the survey area

Extent of the components in map unit:

Bakersfield soils—37 percent

Oldriver soils—16 percent

Minor components—47 percent

Soil properties and qualities

Bakersfield

Depth class: Very deep

Drainage class: Somewhat poorly drained

Landform: Flood plains

Parent material: Alluvium derived from granitoid rock

Texture of the surface layer: Fine sandy loam

Slope: 0 to 1 percent

Oldriver

Depth class: Very deep

Drainage class: Somewhat poorly drained

Landform: Flood plains

Parent material: Alluvium derived from granitoid rock

Texture of the surface layer: Loam

Slope: 0 to 2 percent

Minor components

- Granoso and Vineland soils on flood plains
- Calflax, Excelsior, Gujarral, Milagro, Panoche, and Wasco soils on flood plains, basin floors, alluvial fans, fan skirts, and fan remnants or in depressions and swales

Use and management

Major uses: Irrigated crops and homesite development

Management concerns: Saline-sodic conditions

Management measures: Water management, management of saline-sodic conditions, and selection of suitable plants

4. Gujarral-Cerini-Excelsior

Very deep, well drained soils that formed in alluvium derived from sedimentary and/or granitoid rock; on fan remnants and alluvial fans

Map unit setting

Landform: Fan remnants and alluvial fans

Slope: 0 to 30 percent

Composition

Extent of the map unit:

28 percent of the survey area

Extent of the components in map unit:

Gujarral soils—34 percent

Cerini soils—25 percent

Excelsior soils—17 percent

Minor components—24 percent

Soil properties and qualities

Gujarral

Depth class: Very deep

Drainage class: Well drained

Landform: Fan remnants

Parent material: Alluvium derived from calcareous sedimentary rock

Texture of the surface layer: Gravelly sandy loam

Slope: 2 to 9 percent

Cerini

Depth class: Very deep

Drainage class: Well drained

Landform: Alluvial fans

Parent material: Alluvium derived from calcareous sedimentary and/or granitoid rock

Texture of the surface layer: Loam

Slope: 0 to 2 percent

Excelsior

Depth class: Very deep

Drainage class: Well drained

Landform: Alluvial fans

Parent material: Alluvium derived from calcareous sedimentary rock

Texture of the surface layer: Loam

Slope: 0 to 2 percent

Minor components

- Bakersfield soils; Fluvaquents; Granoso, Hesperia, Kimberlina, Klipstein, Milagro, Oldriver, and Pleitito soils; and Xerofluvents and Xerorthents, sandy. These components are on alluvial fans, flood plains, inset fans, and fan piedmonts or in drainageways.
- Cuyama, Hesperia, and Pyxo soils; Sodic Haplocambids, thick; Torriorthents; Torriorthents, thin; Tupman soils; and Xeric Torriorthents. These components are on hillslopes, fan skirts, fan remnants, escarpments, and stream terraces.

Use and management

Major uses: Grazing land, homesite development, and oil field production

Management concerns: Saline-sodic conditions in some areas

Management measures: Water management, management of saline-sodic conditions, and selection of suitable plants

5. Kimberlina-Granoso-Vineland

Very deep, well drained and somewhat excessively drained soils that formed in alluvium derived from granitoid and/or sedimentary rock or rocks of mixed mineralogy; on alluvial fans and flood plains

Map unit setting

Landform: Alluvial fans and flood plains

Slope: 0 to 5 percent

Composition

Extent of the map unit:

8 percent of the survey area

Extent of the components in map unit:

Kimberlina soils—30 percent

Granoso soils—22 percent

Vineland soils—19 percent

Minor components—29 percent

Soil properties and qualities

Kimberlina

Depth class: Very deep

Drainage class: Well drained

Landform: Alluvial fans

Parent material: Alluvium derived from granitoid and/or sedimentary rock

Texture of the surface layer: Fine sandy loam

Slope: 0 to 1 percent

Granoso

Depth class: Very deep

Drainage class: Somewhat excessively drained

Landform: Alluvial fans and flood plains

Parent material: Alluvium derived from rocks of mixed mineralogy

Texture of the surface layer: Loamy sand

Slope: 0 to 2 percent

Vineland

Depth class: Very deep

Drainage class: Somewhat excessively drained

Landform: Flood plains
Parent material: Alluvium derived from granitoid rock
Texture of the surface layer: Loamy sand
Slope: 0 to 1 percent

Minor components

- Bakersfield, Excelsior, Gujarral, Hesperia, Klipstein, and Milagro soils on flood plains, alluvial fans, fan skirts, and fan remnants

Use and management

Major uses: Irrigated crops and urban land

Management concerns: None

6. Premier-Wheelridge

Very deep, well drained and somewhat excessively drained soils that formed in alluvium derived from granitoid rock; on alluvial fans and fan remnants

Map unit setting

Landform: Alluvial fans and fan remnants
Slope: 0 to 10 percent

Composition

Extent of the map unit:
3 percent of the survey area
Extent of the components in map unit:
Premier soils—81 percent
Wheelridge soils—18 percent
Minor components—1 percent

Soil properties and qualities

Premier

Depth class: Very deep
Drainage class: Well drained
Landform: Alluvial fans
Parent material: Alluvium derived from granitoid rock
Texture of the surface layer: Sandy loam
Slope: 0 to 2 percent

Wheelridge

Depth class: Very deep
Drainage class: Somewhat excessively drained
Landform: Fan remnants
Parent material: Alluvium derived from granitoid rock
Texture of the surface layer: Gravelly loamy sand
Slope: 0 to 2 percent

Minor components

- Badlands and Bakersfield, Ballinger, Excelsior, Granoso, Gujarral, Kimberlina, Klipstein, Milagro, Pleito, Premier, Vineland, and Wasco soils on flood plains, alluvial fans, fan skirts, hillslopes, and fan remnants

Use and management

Major uses: Irrigated crops and urban land

Management concerns: None

7. Calflax-Excelsior-Fages

Very deep, well drained and moderately well drained soils that formed in alluvium derived from rocks of mixed mineralogy, alluvium derived from sedimentary rock, and lacustrine deposits over alluvium derived from rocks of mixed mineralogy; on fan skirts and the rims of basin floors

Map unit setting

Landform: Fan skirts and the rims of basin floors
Slope: 0 to 5 percent

Composition

Extent of the map unit:
8 percent of the survey area
Extent of the components in map unit:
Calflax soils—39 percent
Excelsior soils—17 percent
Fages soils—13 percent
Minor components—31 percent

Soil properties and qualities

Calflax

Depth class: Very deep
Drainage class: Well drained
Landform: Fan skirts
Parent material: Alluvium derived from rocks of mixed mineralogy
Texture of the surface layer: Loam
Slope: 0 to 1 percent

Excelsior

Depth class: Very deep
Drainage class: Well drained
Landform: Fan skirts
Parent material: Alluvium derived from sedimentary rock
Texture of the surface layer: Fine sandy loam
Slope: 0 to 1 percent

Fages

Depth class: Very deep
Drainage class: Moderately well drained
Landform: The rims of basin floors
Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy
Texture of the surface layer: Clay
Slope: 0 to 1 percent

Minor components

- Bakersfield, Buttonwillow, Granoso, Garces, Guijarral, Milagro, Oldriver, Posocharnet, and Weedpatch soils on flood plains, basin floors, alluvial fans, basin-floor remnants, fan remnants, and fan skirts

Use and management

Major uses: Irrigated crops and urban land
Management concerns: None

Soils on hills in the southwest part of southern San Joaquin Valley

These soils make up about 7 percent of the survey area.

8. Elkhills-Sodic Haplocambids, thick

Very deep, well drained soils that formed in alluvium derived from sedimentary and/or granitoid rock; on hillslopes

Map unit setting

Landform: Hillslopes
Slope: 5 to 60 percent

Composition

Extent of the map unit:
7 percent of the survey area
Extent of the components in map unit:
Elkhills soils—48 percent
Sodic Haplocambids, thick—17 percent
Minor components—35 percent

Soil properties and qualities

Elkhills

Depth class: Very deep
Drainage class: Well drained
Landform: Hillslopes
Parent material: Alluvium derived sedimentary and/or granitoid rock
Texture of the surface layer: Sandy loam
Slope: 5 to 60 percent

Sodic Haplocambids, thick

Depth class: Very deep
Drainage class: Well drained
Landform: Hillslopes
Parent material: Alluvium derived from sedimentary and/or granitoid rock
Texture of the surface layer: Loam
Slope: 15 to 60 percent

Minor components

- Ballinger, Cochora, and Hillbrick soils; Haplocambids, thick; Legray and Pyxo soils; Torriorthents, thin; Torriorthents, very thin; and Welpport soils. These components are on hillslopes.

Use and management

Major uses: Irrigated crops and urban land

Management concerns: None

Soils on the Coast and Transverse Ranges

These soils make up about 22 percent of the survey area.

9. Littlesignal

Deep, well drained soils that formed in residuum weathered from sandstone and shale; on hillslopes

Map unit setting

Landform: Hillslopes
Slope: 2 to 75 percent

Composition

Extent of the map unit:
10 percent of the survey area
Extent of the components in map unit:
Littlesignal soils—23 percent
Minor components—77 percent

Soil properties and qualities

Littlesignal

Depth class: Deep
Drainage class: Well drained
Landform: Hillslopes
Parent material: Residuum weathered from sandstone and shale
Texture of the surface layer: Loam
Slope: 9 to 50 percent

Minor components

- Balhud, Ballinger, Beam, Bellyspring, Cochora, and Elkhills soils; Lithic Xerorthents; and Reward and Shimmon soils, Sodic Haplocambids, Welpport soils, and Xerofluvents. These components are on hillslopes.
- Padres, Wasioja, and Thomhill soils on alluvial fans, fan remnants, and alluvial plains

Use and management

Major uses: Grazing land, homesite development, and recreational development

10. Zonap-Ballinger

Moderately deep, well drained soils that formed in residuum weathered from sandstone, shale, or mudstone; on hillslopes

Map unit setting

Landform: Hillslopes
Slope: 0 to 75 percent

Composition

Extent of the map unit:
1 percent of the survey area
Extent of the components in map unit:
Zonap soils—18 percent
Ballinger soils—15 percent
Minor components—67 percent

Soil properties and qualities

Zonap

Depth class: Moderately deep
Drainage class: Well drained
Landform: Hillslopes
Parent material: Residuum weathered from sandstone and shale

Texture of the surface layer: Fine sandy loam

Slope: 15 to 75 percent

Ballinger

Depth class: Moderately deep

Drainage class: Well drained

Landform: Hillslopes

Parent material: Residuum weathered from sandstone and/or mudstone

Texture of the surface layer: Silty clay loam

Slope: 15 to 75 percent

Minor components

- Aridisols, Badlands, and Beam, Bitcreek, Calleguas, and Hillbrick soils; Lithic Xerorthents; and Padres, Panoza, Panoche, and Stutzville soils. These components are on hillslopes and basin floors, in drainageways and seeps, and on mountain slopes.

Use and management

Major uses: Grazing land, homesite development, and recreational development

11. Loslobos-Pleito

Very deep, well drained soils that formed in unconsolidated alluvium derived from mixed rock sources or in alluvium derived from mixed sources; on hillslopes and fan remnants

Map unit setting

Landform: Hillslopes and fan remnants

Slope: 0 to 100 percent

Composition

Extent of the map unit:

11 percent of the survey area

Extent of the components in map unit:

Loslobos soils—21 percent

Pleito soils—18 percent

Minor components—61 percent

Soil properties and qualities

Loslobos

Depth class: Very deep

Drainage class: Well drained

Landform: Hillslopes

Parent material: Unconsolidated alluvium derived from mixed rock sources

Texture of the surface layer: Sandy loam

Slope: 40 to 100 percent

Pleito

Depth class: Very deep

Drainage class: Well drained

Landform: Fan remnants

Parent material: Alluvium derived from mixed sources

Texture of the surface layer: Sandy clay loam

Slope: 0 to 60 percent

Minor components

- Balcom, Ballinger, Bitcreek, Calleguas, and Eaglerest soils; Calcic Haploxerepts and Calcic Pachic Argixerolls, fine; Dibble, Friant, and Geghus soils; Haploxerepts and Haploxerolls, coarse-loamy; and Positas soils, Riverwash, Selby soils, Xeric Torriorthents, and Xeric Torriorthents, very gravelly. These components are on hillslopes, mountain slopes, stream terraces, flood plains, and fan remnants or in seeps and channels.

Use and management

Major uses: Grazing land, homesite development, and recreational development

Soils on the Tehachapi Range

These soils make up about 1 percent of the survey area.

12. Geghus-Tecuya

Very deep, well drained soils that formed in residuum weathered from shale, sandstone, and/or conglomerate; on hillslopes

Map unit setting

Landform: Hillslopes
Slope: 9 to 75 percent

Composition

Extent of the map unit:
1 percent of the survey area
Extent of the components in map unit:
Geghus soils—39 percent
Tecuya soils 26—percent
Minor components—35 percent

Soil properties and qualities

Geghus

Depth class: Very deep
Drainage class: Well drained
Landform: Hillslopes
Parent material: Residuum weathered from shale, sandstone, and/or conglomerate
Texture of the surface layer: Loam
Slope: 15 to 75 percent

Tecuya

Depth class: Very deep
Drainage class: Well drained
Landform: Hillslopes
Parent material: Residuum weathered from shale, sandstone, and/or conglomerate
Texture of the surface layer: Cobbly silt loam
Slope: 9 to 75 percent

Minor components

- Badlands; Balcom, Balhud, Ballinger, Beam, Bitcreek, Calleguas, Harrisranch, Loslobos, Pleito, Shimmon, and Walong soils; and Xeric Torriorthents. These components are on hillslopes, mountain slopes, benches on mountain slopes, and fan remnants.

Use and management

Major uses: Grazing land, homesite development, and recreational development

Soils on the mountains of the Transverse Range

These soils make up about 3 percent of the survey area.

13. Frazier-Harrisranch

Moderately deep and very deep, well drained soils that formed in colluvium derived from granite and in colluvium or residuum derived from sandstone; on mountain slopes

Map unit setting

Landform: Mountain slopes

Slope: 9 to 75 percent

Composition

Extent of the map unit:

3 percent of the survey area

Extent of the components in map unit:

Frazier soils—18 percent

Harrisranch soils—15 percent

Minor components—67 percent

Soil properties and qualities

Frazier

Depth class: Moderately deep

Drainage class: Well drained

Landform: Mountain slopes

Parent material: Colluvium derived from granite

Texture of the surface layer: Very gravelly sandy loam

Slope: 50 to 75 percent

Harrisranch

Depth class: Very deep

Drainage class: Well drained

Landform: Mountain slopes

Parent material: Colluvium or residuum derived from sandstone

Texture of the surface layer: Sandy loam

Slope: 9 to 75 percent

Minor components

- Badlands; Balcom, Ballinger, Calleguas, Chuchupate, Gorman, and Hawk soils; Haploxerepts; Los Gatos, Pleito, and Tehachapi soils; Typic Xerorthents, mesic; Xeric Torriorthents; and Xerorthents, shallow, Xerorthents, sandy, and Xerofluvents. These components are on hillslopes, mountain slopes, fan remnants, alluvial fans, escarpments, stream terraces, and flood plains.

Use and management

Major uses: Grazing land, homesite development, and recreational development

Access denied

This map unit makes up about 2 percent of southwest Kern County.

14. Area not surveyed, access denied

Detailed Soil Map Units

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

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the

detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Cerini loam, 2 to 5 percent slopes, is a phase of the Cerini series.

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

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Zonap-Badlands-Beam complex, 30 to 75 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Pleito-Emidio-Loslobos association, 15 to 75 percent slopes, is an example.

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

Table 5 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

101—Bakersfield fine sandy loam, drained, 0 to 1 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 290 to 405 feet (89 to 124 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Bakersfield, drained, and similar soils—80 percent

Minor components—20 percent

Characteristics of Bakersfield, drained, and similar soils

Slope: 0 to 1 percent

Landform: Flood plain

Parent material: Alluvium derived from granitoid rock

Typical vegetation: Most areas are cultivated (figs. 14 and 15); the native vegetation is sycamore and willow with annual grasses and forbs.

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 9.8 inches (high)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare

Present annual ponding: None



Figure 14.—Alfalfa on Bakersfield fine sandy loam, drained, 0 to 1 percent slopes.



Figure 15.—Potatoes on Bakersfield fine sandy loam, drained, 0 to 1 percent slopes.

Surface runoff class: Negligible
Current water table: None noted
Natural drainage class: Somewhat poorly drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-4
Land capability classification (nonirrigated areas): 7e
Farmland classification: Prime farmland if irrigated

Representative profile

Ap1—0 to 3 inches; fine sandy loam
Ap2—3 to 10 inches; fine sandy loam
A—10 to 16 inches; fine sandy loam
C1—16 to 29 inches; stratified sand to loam
C2—29 to 45 inches; stratified sand to loam
Ck—45 to 51 inches; loam
C'1—51 to 58 inches; stratified sandy loam to silt loam
C'2—58 to 66 inches; stratified sand to loam

Minor components

Bakersfield, saline-sodic, and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 1 percent
Landform: Flood plain

Granoso and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 1 percent
Landform: Flood plain

Granoso, overwash, and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 1 percent
Landform: Flood plain

Oldriver and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 1 percent
Landform: Flood plain

Vineland and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 1 percent
Landform: Flood plain

102—Bakersfield sandy loam, partially drained, 0 to 1 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 285 to 370 feet (87 to 113 meters)
Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Bakersfield, partially drained, and similar soils—85 percent
Minor components—15 percent

Characteristics of Bakersfield, partially drained, and similar soils

Slope: 0 to 1 percent

Landform: Flood plain

Parent material: Alluvium derived from granitoid rock

Typical vegetation: Most areas are cultivated; the native vegetation is sycamore and willow with annual grasses and forbs.

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 9.8 inches (high)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Negligible

Current water table: Present

Natural drainage class: Somewhat poorly drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3s-6

Land capability classification (nonirrigated areas): 7s

Farmland classification: Farmland of statewide importance

Representative profile

Ap1—0 to 3 inches; sandy loam

Ap2—3 to 10 inches; fine sandy loam

A—10 to 16 inches; fine sandy loam

C1—16 to 29 inches; stratified sand to loam

C2—29 to 45 inches; stratified sand to loam

Ck—45 to 51 inches; loam

C'1—51 to 58 inches; stratified sandy loam to silt loam

C'2—58 to 66 inches; stratified sand to loam

Minor components

Granoso and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Flood plain

Excelsior, saline-sodic, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Alluvial fan

Oldriver, saline-sodic, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Flood plain

Vineland and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Flood plain

Bakersfield, saline-sodic, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Flood plain

110—Buttonwillow clay, partially drained, 0 to 1 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 275 to 310 feet (85 to 95 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Buttonwillow, partially drained, and similar soils—75 percent

Minor components—25 percent

Characteristics of Buttonwillow, partially drained, and similar soils

Slope: 0 to 1 percent

Landform: Basin floor

Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy

Typical vegetation: All areas are cultivated.

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.8 inches (high)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare

Present annual ponding: Rare

Surface runoff class: Low

Current water table: Present

Natural drainage class: Somewhat poorly drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 2w-5

Land capability classification (nonirrigated areas): 7w

Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 8 inches; clay

A1—8 to 24 inches; clay

A2—24 to 30 inches; clay

- 2C1—30 to 36 inches; stratified sand to fine sandy loam
- 2C2—36 to 43 inches; stratified sand to fine sandy loam
- 3C3—43 to 60 inches; silty clay loam
- 3C4—60 to 67 inches; silty clay loam
- 4C5—67 to 70 inches; silt loam

Minor components

Lokern and similar soils

Percentage of component in the map unit: About 10 percent

Slope: 0 to 1 percent

Landform: Basin floor

Kimberlina and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 2 to 5 percent

Landform: Recent alluvial fan

Vineland and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 1 percent

Landform: Flood plain

Milagro and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan skirt

Granoso and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

120—Granoso loamy sand, 0 to 2 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 280 to 425 feet (86 to 130 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Granoso and similar soils—85 percent

Minor components—15 percent

Characteristics of Granoso and similar soils

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Cropland (fig. 16)

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.6 inches (low)



Figure 16.—Irrigated wheat on Granoso loamy sand, 0 to 2 percent slopes.

Selected hydrologic properties

Altered hydrology: Most areas are protected from flooding by dams and levees.

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Very low

Current water table: None noted

Natural drainage class: Somewhat excessively drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Farmland of statewide importance

Representative profile

Ap—0 to 10 inches; loamy sand

C1—10 to 20 inches; loamy sand

C2—20 to 36 inches; sand

C3—36 to 62 inches; sand

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Flood plain

Kimberlina and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Recent alluvial fan

Milagro fine sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan skirt

Granoso soil, high water table, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Unnamed soil, slough, and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Slough

Wasco and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

121—Granoso loamy sand, 2 to 5 percent slopes

Map unit setting

General location: South of Old River to the California Aqueduct in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 290 to 1,120 feet (89 to 342 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Granoso and similar soils—85 percent

Minor components—15 percent

Characteristics of Granoso and similar soils

Slope: 2 to 5 percent

Landform: Alluvial fan

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Most areas are cropland; annual grasses and forbs and desert shrubs grow in other areas.

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.1 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Very low

Current water table: None noted

Natural drainage class: Somewhat excessively drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-4

Land capability classification (nonirrigated areas): 7e
Farmland classification: Farmland of statewide importance

Representative profile

Ap—0 to 10 inches; loamy sand
C1—10 to 20 inches; loamy sand
C2—20 to 36 inches; loamy sand
C3—36 to 62 inches; sand

Minor components

Kimberlina and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 2 to 5 percent
Landform: Recent alluvial fan

Bakersfield and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 2 percent
Landform: Flood plain

Milagro fine sandy loam and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, fan skirt

Granoso soil, high water table, and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

Water

Percentage of component in the map unit: About 1 percent
Slope: 0 to 2 percent
Landform: None assigned

Wasco and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

122—Granoso loamy sand, loamy substratum, 0 to 2 percent slopes

Map unit setting

General location: East of Buena Vista Lake Bed to Mettler and Arvin in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 305 to 520 feet (93 to 159 meters)

Mean annual precipitation: 5 to 7 inches (127 to 178 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Granoso, loamy substratum, and similar soils—85 percent
Minor components—15 percent

Characteristics of Granoso, loamy substratum, and similar soils

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Cropland

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 8.1 inches (high)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Very low

Current water table: None noted

Natural drainage class: Somewhat excessively drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 10 inches; loamy sand

C1—10 to 20 inches; loamy sand

C2—20 to 36 inches; sand

C3—36 to 62 inches; stratified sandy loam to silt loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Milagro fine sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan skirt

Milagro loamy sand and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Granoso soil, high water table, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

123—Granoso sandy loam, 0 to 2 percent slopes, overwash

Map unit setting

General location: East of Buena Vista Lake Bed to Mettler and Arvin in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 295 to 490 feet (90 to 150 meters)

Mean annual precipitation: 5 to 7 inches (127 to 178 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Granoso and similar soils—85 percent

Minor components—15 percent

Characteristics of Granoso and similar soils

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Cropland

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.9 inches (low)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Very low

Current water table: None noted

Natural drainage class: Somewhat excessively drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3s-4

Land capability classification (nonirrigated areas): 7s

Farmland classification: Farmland of statewide importance

Representative profile

Ap—0 to 10 inches; sandy loam

C1—10 to 20 inches; loamy sand

C2—20 to 36 inches; sand

C3—36 to 62 inches; sand

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Kimberlina and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Milagro fine sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan skirt

Wasco and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Unnamed soil, slough, and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Slough

124—Granoso gravelly loamy sand, 0 to 2 percent slopes

Map unit setting

General location: North of Taft in the southwest end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 375 to 970 feet (115 to 296 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Granoso and similar soils—90 percent

Minor components—10 percent

Characteristics of Granoso and similar soils

Slope: 0 to 2 percent

Landform: Flood plain

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Annual grasses and forbs with scattered desert shrubs

Percentage of the surface covered by rock fragments: 15 to 50 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.1 inches (low)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Very low

Current water table: None noted

Natural drainage class: Somewhat excessively drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 4s-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Farmland of statewide importance

Representative profile

- Ap—0 to 10 inches; gravelly loamy sand
- C1—10 to 20 inches; gravelly loamy sand
- C2—20 to 36 inches; gravelly loamy sand
- C3—36 to 62 inches; gravelly sand

Minor components

Excelsior and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 2 percent
Landform: Alluvial fan

Kimberlina and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

Milagro fine sandy loam and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, fan skirt

Wasco and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

130—Cerini sandy loam, 0 to 2 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 375 to 695 feet (115 to 212 meters)
Mean annual precipitation: 5 to 8 inches (127 to 203 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Cerini and similar soils—85 percent
Minor components—15 percent

Characteristics of Cerini and similar soils

Slope: 0 to 2 percent
Landform: Alluvial fan
Parent material: Alluvium derived from granitoid and/or sedimentary rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 9.7 inches (high)

Selected hydrologic properties

- Present annual flooding:* Rare
- Present annual ponding:* None
- Surface runoff class:* Low
- Current water table:* None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 10 inches; sandy loam

Bw1—10 to 17 inches; loam

Bw2—17 to 24 inches; loam

C1—24 to 47 inches; stratified fine sandy loam to silty clay loam

C2—47 to 69 inches; stratified sandy loam to sandy clay loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Guijarral and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 5 percent

Landform: Fan remnant

Granoso and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Klipstein and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 5 percent

Landform: Alluvial fan, fan remnant

Milagro and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan skirt

131—Calflax fine sandy loam, 0 to 1 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 295 to 310 feet (90 to 96 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Calflax and similar soils—85 percent
Minor components—15 percent

Characteristics of Calflax and similar soils

Slope: 0 to 1 percent

Landform: Fan skirt

Parent material: Alluvium derived from rocks of mixed mineralogy

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 9.3 inches (high)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Negligible

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 3s-6

Land capability classification (nonirrigated areas): 7s

Farmland classification: Farmland of statewide importance

Representative profile

Ap—0 to 6 inches; fine sandy loam

Bw—6 to 21 inches; stratified clay loam to silty clay loam

C1—21 to 30 inches; stratified clay loam to silty clay loam

C2—30 to 37 inches; stratified clay loam to silty clay loam

C3—37 to 46 inches; stratified sandy loam to loam

C4—46 to 52 inches; stratified sandy loam to loam

C5—52 to 60 inches; stratified sandy loam to loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 0 to 1 percent

Landform: Flood plain

Vineland and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 0 to 1 percent

Landform: Flood plain

Playa

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Basin-floor remnant

132—Cerini loam, 0 to 2 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 295 to 955 feet (91 to 292 meters)

Mean annual precipitation: 5 to 8 inches (127 to 203 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Cerini and similar soils—85 percent

Minor components—15 percent

Characteristics of Cerini and similar soils

Slope: 0 to 2 percent

Landform: Alluvial fan

Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 9.7 inches (high)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 10 inches; loam

Bw1—10 to 17 inches; loam

Bw2—17 to 24 inches; loam

C1—24 to 47 inches; stratified fine sandy loam to silty clay loam

C2—47 to 69 inches; stratified sandy loam to sandy clay loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Granoso and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Guijarral and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 5 percent
Landform: Fan remnant

Klipstein and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 2 to 5 percent
Landform: Alluvial fan, fan remnant

Milagro and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, fan skirt

Unnamed soil

Percentage of component in the map unit: About 1 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, inset fan, wash

133—Calflax loam, 0 to 1 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 285 to 485 feet (87 to 149 meters)
Mean annual precipitation: 5 to 7 inches (127 to 178 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Calflax and similar soils—85 percent
Minor components—15 percent

Characteristics of Calflax and similar soils

Slope: 0 to 1 percent
Landform: Fan skirt
Parent material: Alluvium derived from rocks of mixed mineralogy
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 8.6 inches (high)

Selected hydrologic properties

- Present annual flooding:* Rare
- Present annual ponding:* None
- Surface runoff class:* Negligible
- Current water table:* None noted
- Natural drainage class:* Well drained
- Hydrologic soil group:* C

Interpretive groups

Land capability classification (irrigated areas): 3s-6
Land capability classification (nonirrigated areas): 7s
Farmland classification: Farmland of statewide importance

Representative profile

Ap—0 to 6 inches; loam

Bw—6 to 21 inches; stratified clay loam to silty clay loam
C1—21 to 30 inches; stratified clay loam to silty clay loam
C2—30 to 37 inches; stratified clay loam to silty clay loam
C3—37 to 46 inches; sandy loam
C4—46 to 52 inches; loam
C5—52 to 60 inches; loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 0 to 1 percent

Landform: Flood plain

Posochanet and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 1 percent

Landform: Rim of basin floor

Vineland and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 1 percent

Landform: Flood plain

134—Cerini loam, 2 to 5 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 515 to 960 feet (157 to 293 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Cerini and similar soils—85 percent

Minor components—15 percent

Characteristics of Cerini and similar soils

Slope: 2 to 5 percent

Landform: Alluvial fan

Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 9.7 inches (high)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 10 inches; loam

Bw1—10 to 17 inches; loam

Bw2—17 to 24 inches; loam

C1—24 to 47 inches; stratified fine sandy loam to silty clay loam

C2—47 to 69 inches; stratified sandy loam to sandy clay loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Granoso and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Guijarral and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 5 percent

Landform: Fan remnant

Klipstein and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 5 percent

Landform: Alluvial fan, fan remnant

Milagro and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan skirt

Pleitito and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 5 percent

Landform: Alluvial fan, channel

140—Copus silty clay, partially drained, 0 to 1 percent slopes

Map unit setting

General location: Near the Buena Vista Lake Bed in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 275 to 305 feet (84 to 94 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Copus silty clay, partially drained, and similar soils—85 percent
Minor components—15 percent

Characteristics of Copus silty clay, partially drained, and similar soils

Slope: 0 to 1 percent
Landform: Basin floor
Parent material: Lacustrine deposits derived from rocks of mixed mineralogy
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 6.5 inches (moderate)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.
Present annual flooding: Rare
Present annual ponding: Rare
Surface runoff class: Low
Current water table: Present
Natural drainage class: Very poorly drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 2w-2
Land capability classification (nonirrigated areas): 7w
Farmland classification: Farmland of statewide importance

Representative profile

Ap1—0 to 5 inches; silty clay
Ap2—5 to 17 inches; silty clay
Bw—17 to 23 inches; clay
Bssy—23 to 39 inches; clay
Bgy1—39 to 51 inches; clay
Bgy2—51 to 60 inches; clay

Minor components

Fages and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 1 percent
Landform: Rim of basin floor

Bakersfield and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 1 percent
Landform: Flood plain

Buttonwillow and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 1 percent
Landform: Basin floor

Excelsior and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 1 percent

Landform: Alluvial fan

Guijarral and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 1 percent

Landform: Fan remnant

Lokern and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 1 percent

Landform: Basin floor

141—Copus clay, partially drained, 0 to 1 percent slopes

Map unit setting

General location: Near the Buena Vista Lake Bed in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 285 to 310 feet (88 to 96 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Copus clay, partially drained, and similar soils—95 percent

Minor components—5 percent

Characteristics of Copus clay, partially drained, and similar soils

Slope: 0 to 1 percent

Landform: Basin floor

Parent material: Lacustrine deposits derived from rocks of mixed mineralogy

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.2 inches (moderate)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare

Present annual ponding: Rare

Surface runoff class: Low

Current water table: Present

Natural drainage class: Very poorly drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 2w-2

Land capability classification (nonirrigated areas): 7w

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap1—0 to 5 inches; clay
Ap2—5 to 17 inches; clay
Bw—17 to 23 inches; clay
Bssy—23 to 39 inches; clay
Bgy1—39 to 51 inches; clay
Bgy2—51 to 60 inches; clay

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 1 percent
Landform: Flood plain

Buttonwillow and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 1 percent
Landform: Basin floor

Excelsior and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 1 percent
Landform: Alluvial fan

Fages and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 1 percent
Landform: Rim of basin floor

Lokern and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 1 percent
Landform: Basin floor

150—Excelsior sandy loam, 0 to 2 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 325 to 950 feet (100 to 291 meters)
Mean annual precipitation: 5 to 8 inches (127 to 203 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Excelsior and similar soils—85 percent
Minor components—15 percent

Characteristics of Excelsior and similar soils

Slope: 0 to 2 percent
Landform: Alluvial fan
Parent material: Alluvium derived from sedimentary rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent

Soil Survey of Kern County, California, Southwest Part

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 9.1 inches (high)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Farmland of statewide importance

Representative profile

Ap1—0 to 8 inches; sandy loam

Ap2—8 to 19 inches; fine sandy loam

C1—19 to 25 inches; sandy loam

C2—25 to 36 inches; stratified loamy fine sand to silt loam

C3—36 to 41 inches; fine sandy loam

C4—41 to 48 inches; stratified loamy fine sand to silt loam

C5—48 to 62 inches; stratified loamy sand to silt loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Guijarral and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Fan remnant

Granoso and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Kimberlina and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Milagro and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan skirt

Pleitito and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, channel

Wasco and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

151—Excelsior fine sandy loam, saline-sodic, 0 to 1 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 290 to 515 feet (89 to 158 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Excelsior, saline-sodic, and similar soils—85 percent

Minor components—15 percent

Characteristics of Excelsior, saline-sodic, and similar soils

Slope: 0 to 1 percent

Landform: Fan skirt

Parent material: Alluvium derived from sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 9.3 inches (high)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-6

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap1—0 to 8 inches; fine sandy loam

Ap2—8 to 19 inches; fine sandy loam

C1—19 to 25 inches; sandy loam

C2—25 to 36 inches; stratified fine sandy loam to silt loam

C3—36 to 41 inches; fine sandy loam

C4—41 to 48 inches; stratified loamy fine sand to silt loam

C5—48 to 62 inches; stratified loamy fine sand to silt loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Fan skirt

Granoso and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Kimberlina and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Unnamed soil

Percentage of component in the map unit: About 2 percent

Slope: 0 to 1 percent

Landform: Basin-floor remnant

Guijarral and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 2 to 5 percent

Landform: Fan remnant

Milagro fine sandy loam and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan skirt

Wasco and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

152—Excelsior loam, 0 to 2 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 360 to 725 feet (111 to 221 meters)

Mean annual precipitation: 5 to 8 inches (127 to 203 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Excelsior and similar soils—85 percent

Minor components—15 percent

Characteristics of Excelsior and similar soils

Slope: 0 to 2 percent

Landform: Alluvial fan

Parent material: Alluvium derived from sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 9.9 inches (high)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Farmland of statewide importance

Representative profile

Ap1—0 to 8 inches; loam

Ap2—8 to 19 inches; loam

C1—19 to 25 inches; sandy loam

C2—25 to 36 inches; stratified fine sandy loam to silt loam

C3—36 to 41 inches; fine sandy loam

C4—41 to 48 inches; stratified loamy fine sand to silt loam

C5—48 to 62 inches; stratified loamy fine sand to silt loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Guijarral and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 5 percent

Landform: Fan remnant

Granoso and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Kimberlina and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Unnamed soil, channel, and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Channel

Milagro fine sandy loam and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan skirt

Wasco and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

153—Tupman gravelly sandy loam, 0 to 2 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 355 to 1,335 feet (109 to 407 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Tupman and similar soils—80 percent

Minor components—20 percent

Characteristics of Tupman and similar soils

Slope: 0 to 2 percent

Landform: Fan remnant, stream terrace

Parent material: Alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 10 to 50 percent by medium, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.6 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 6 inches; gravelly sandy loam

Bw—6 to 14 inches; sandy loam

C1—14 to 30 inches; stratified very gravelly coarse sand to gravelly silt loam

C2—30 to 37 inches; stratified sandy loam to loam

C3—37 to 48 inches; sandy loam

C4—48 to 60 inches; gravelly loamy sand

Minor components

Kimberlina and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 5 percent

Landform: Hillslope

Milagro and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan skirt

Pyxo and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 9 to 12 percent

Landform: Hillslope

Tupman and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 5 percent

Landform: Fan skirt, stream terrace

Pleitito and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, channel

Wasco and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

154—Tupman-Urban land complex, 0 to 5 percent slopes

Map unit setting

General location: Near Taft in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 835 to 1,055 feet (256 to 322 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Tupman and similar soils—70 percent
Urban land—20 percent
Minor components—10 percent

Characteristics of Tupman and similar soils

Slope: 0 to 5 percent
Landform: Fan remnant, stream terrace
Parent material: Alluvium derived from granitoid and/or sedimentary rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 10 to 50 percent by medium, subangular gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 5.6 inches (moderate)

Selected hydrologic properties
Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Low
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups
Land capability classification (irrigated areas): 3e-4
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap—0 to 6 inches; gravelly sandy loam
Bw—6 to 14 inches; sandy loam
C1—14 to 30 inches; stratified very gravelly coarse sand to gravelly silt loam
C2—30 to 37 inches; stratified sandy loam to loam
C3—37 to 48 inches; sandy loam
C4—48 to 60 inches; gravelly loamy sand

Characteristics of Urban land

Slope: 0 to 5 percent
Landform: Alluvial fan, flood plain

Selected hydrologic properties
Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Hydrologic soil group: None assigned

Interpretive groups
Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): Not assigned
Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Kimberlina and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

Milagro fine sandy loam and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, fan skirt

Pyxo and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 9 to 12 percent
Landform: Hillslope

Wasco and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

160—Fages clay, 0 to 1 percent slopes

Map unit setting

General location: Near the south and west sides of Buena Vista Lake Bed in the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 280 to 335 feet (86 to 103 meters)
Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Fages and similar soils—80 percent
Minor components—20 percent

Characteristics of Fages and similar soils

Slope: 0 to 1 percent
Landform: Rim of basin floor
Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 0.9 inch (very low)

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: Rare
Surface runoff class: Medium
Current water table: Present
Natural drainage class: Moderately well drained
Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): 4s-6
Land capability classification (nonirrigated areas): 7s
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap—0 to 7 inches; clay
Btnz—7 to 22 inches; clay
Bnyz—22 to 30 inches; clay
Bnz—30 to 48 inches; clay
2Bnyz1—48 to 56 inches; silty clay
2Bnyz2—56 to 58 inches; loam
3Bnyz—58 to 65 inches; clay loam

Minor components

Posochanet and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 1 percent
Landform: Rim of basin floor

Bakersfield and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 1 percent
Landform: Flood plain

Playa

Percentage of component in the map unit: About 5 percent
Slope: 0 to 1 percent
Landform: Basin-floor remnant

Vineland and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 1 percent
Landform: Flood plain

179—Padres sandy loam, 0 to 2 percent slopes

Map unit setting

General location: Elkhorn Plain
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 1,895 to 2,495 feet (579 to 762 meters)
Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)
Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)
Frost-free period: 175 to 200 days

Map unit composition

Padres and similar soils—70 percent
Minor components—30 percent

Characteristics of Padres and similar soils

Slope: 0 to 2 percent
Landform: Alluvial fan, alluvial flat
Parent material: Alluvium derived from calcareous sedimentary rock
Typical vegetation: Annual grasses and forbs
Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subangular gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 6.3 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-1

Land capability classification (nonirrigated areas): 4s

Farmland classification: Prime farmland if irrigated

Representative profile

A1—0 to 3 inches; sandy loam

A2—3 to 16 inches; sandy loam

2Bk—16 to 30 inches; gravelly coarse sandy loam

3Bk1—30 to 38 inches; loam

3Bk2—38 to 46 inches; sandy loam

4Bk—46 to 62 inches; gravelly coarse sandy loam

Minor components

Beam sandy loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Hillslope

Hillbrick sandy loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Hillslope

Panoza loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Hillslope

Polonio loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Wasioja sandy loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Fan remnant

Xerofluvents cobbly loamy sand and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Flood plain

180—Garces loam, 0 to 1 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 285 to 355 feet (87 to 109 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Garces and similar soils—85 percent

Minor components—15 percent

Characteristics of Garces and similar soils

Slope: 0 to 1 percent

Landform: Nonburied fan remnant

Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Depth to a restrictive feature: Natric horizon—7 to 20 inches

Available water capacity to a depth of 60 inches: About 2.8 inches (low)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Negligible

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 3s-6

Land capability classification (nonirrigated areas): 7s

Farmland classification: Farmland of statewide importance

Representative profile

Ap—0 to 7 inches; loam

BA—7 to 14 inches; clay loam

Btkn—14 to 24 inches; clay loam

2Btkn—24 to 37 inches; loam

2Ckn—37 to 55 inches; fine sandy loam

2Cn—55 to 64 inches; fine sandy loam

Minor components

Excelsior and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 1 percent

Landform: Alluvial fan

Granoso and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 1 percent

Landform: Flood plain

Oldriver and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 1 percent

Landform: Flood plain

Vineland and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 1 percent

Landform: Flood plain

Playa

Percentage of component in the map unit: About 1 percent

Slope: 0 to 1 percent

Landform: Playa

190—Guijarral sandy loam, 0 to 2 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 555 to 1,335 feet (170 to 407 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Guijarral and similar soils—85 percent

Minor components—15 percent

Characteristics of Guijarral and similar soils

Slope: 0 to 2 percent

Landform: Fan remnant

Parent material: Alluvium derived from calcareous sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Farmland of statewide importance

Representative profile

A1—0 to 1 inch; sandy loam

A2—1 to 4 inches; sandy loam

Bw—4 to 16 inches; sandy loam

Bk—16 to 29 inches; gravelly sandy loam

C—29 to 40 inches; gravelly sandy loam

2Ck—40 to 46 inches; gravelly sandy loam

3C1—46 to 51 inches; very gravelly sandy loam

3C2—51 to 60 inches; very gravelly sandy loam

Minor components

Cerini and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Excelsior and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Pentland and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan piedmont

Tupman and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Fan remnant, stream terrace

Unnamed soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

191—Guijarral sandy loam, 2 to 9 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 455 to 1,825 feet (140 to 557 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Guijarral and similar soils—85 percent

Minor components—15 percent

Characteristics of Guijarral and similar soils

Slope: 2 to 9 percent

Landform: Fan remnant

Parent material: Alluvium derived from calcareous sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None
Surface runoff class: Low
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-4
Land capability classification (nonirrigated areas): 7e
Farmland classification: Farmland of statewide importance

Representative profile

A1—0 to 1 inch; sandy loam
A2—1 to 4 inches; sandy loam
Bw—4 to 16 inches; sandy loam
Bk—16 to 29 inches; gravelly sandy loam
C—29 to 40 inches; gravelly sandy loam
2Ck—40 to 46 inches; gravelly sandy loam
3C1—46 to 51 inches; very gravelly sandy loam
3C2—51 to 60 inches; very gravelly sandy loam

Minor components

Cerini and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 5 percent
Landform: Alluvial fan

Pentland and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 2 to 5 percent
Landform: Alluvial fan, fan piedmont

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 5 percent
Landform: Alluvial fan

Tupman and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 5 percent
Landform: Fan remnant, stream terrace

Unnamed soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 5 percent
Landform: Alluvial fan, flood plain

192—Guajarral-Klipstein complex, 2 to 5 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 505 to 1,900 feet (155 to 580 meters)
Mean annual precipitation: 6 to 10 inches (152 to 254 millimeters)
Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Guijarral and similar soils—45 percent
Klipstein and similar soils—45 percent
Minor components—10 percent

Characteristics of Guijarral and similar soils

Slope: 2 to 5 percent
Landform: Fan remnant
Parent material: Alluvium derived from calcareous sedimentary rock
Typical vegetation: Annual grasses, forbs, and scattered shrubs
Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 6.0 inches (moderate)

Selected hydrologic properties
Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Low
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups
Land capability classification (irrigated areas): 3e-4
Land capability classification (nonirrigated areas): 7e
Farmland classification: Farmland of statewide importance

Representative profile

A1—0 to 1 inch; sandy loam
A2—1 to 4 inches; sandy loam
Bw—4 to 16 inches; sandy loam
Bk—16 to 29 inches; gravelly sandy loam
C—29 to 40 inches; gravelly sandy loam
2Ck—40 to 46 inches; gravelly sandy loam
3C1—46 to 51 inches; very gravelly sandy loam
3C2—51 to 60 inches; very gravelly sandy loam

Characteristics of Klipstein and similar soils

Slope: 2 to 5 percent
Landform: Alluvial fan, fan remnant
Parent material: Alluvium derived from granitoid and/or sedimentary rock
Typical vegetation: Annual grasses, forbs, and scattered shrubs
Percentage of the surface covered by rock fragments: 0 to 35 percent by coarse, subangular gravel; 0 to 35 percent by subangular cobbles; 0 to 35 percent by subrounded stones; and 0 to 5 percent by subrounded boulders
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 2.8 inches (low)

Selected hydrologic properties
Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Very low
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 4e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Farmland of statewide importance

Representative profile

A—0 to 5 inches; sandy loam

Bw—5 to 23 inches; extremely gravelly sandy loam

Bk1—23 to 30 inches; very gravelly sandy loam

Bk2—30 to 36 inches; loamy sand

Bk3—36 to 60 inches; extremely gravelly sandy loam

Minor components

Cerini and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Tupman and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 5 percent

Landform: Fan remnant, stream terrace

Unnamed soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 5 percent

Landform: Alluvial fan, flood plain

193—Guijarral gravelly sandy loam, 2 to 5 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 520 to 2,320 feet (160 to 708 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Guijarral and similar soils—85 percent

Minor components—15 percent

Characteristics of Guijarral and similar soils

Slope: 2 to 5 percent

Landform: Fan remnant

Parent material: Alluvium derived from calcareous sedimentary rock

Typical vegetation: None assigned

Soil Survey of Kern County, California, Southwest Part

Percentage of the surface covered by rock fragments: 15 to 40 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.2 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 1 inch; gravelly sandy loam

A2—1 to 4 inches; gravelly sandy loam

Bw—4 to 16 inches; gravelly sandy loam

Bk—16 to 29 inches; gravelly sandy loam

C—29 to 40 inches; gravelly sandy loam

2Ck—40 to 46 inches; very gravelly sandy loam

3C1—46 to 51 inches; very gravelly sandy loam

3C2—51 to 60 inches; very gravelly sandy loam

Minor components

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 5 percent

Landform: Hillslope

Cerini and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Tupman and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 5 percent

Landform: Fan remnant, stream terrace

Unnamed soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 5 percent

Landform: Drainageway

195—Gujarral complex, 2 to 9 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 985 to 1,780 feet (301 to 544 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Gujarral, extremely gravelly substratum, and similar soils—60 percent

Gujarral and similar soils—30 percent

Minor components—10 percent

Characteristics of Gujarral, extremely gravelly substratum, and similar soils

Slope: 2 to 9 percent

Landform: Fan remnant

Parent material: Alluvium derived from calcareous sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 50 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.2 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 4e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 1 inch; gravelly sandy loam

A2—1 to 4 inches; gravelly sandy loam

Bw—4 to 16 inches; gravelly sandy loam

Bk—16 to 29 inches; gravelly sandy loam

C—29 to 40 inches; gravelly sandy loam

2Ck—40 to 46 inches; gravelly sandy loam

3C1—46 to 51 inches; extremely gravelly sandy loam

3C2—51 to 60 inches; extremely gravelly sandy loam

Characteristics of Gujarral and similar soils

Slope: 2 to 9 percent

Landform: Fan remnant

Parent material: Alluvium derived from calcareous sedimentary rock

Typical vegetation: None assigned

Soil Survey of Kern County, California, Southwest Part

Percentage of the surface covered by rock fragments: 0 to 50 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; gravelly sandy loam

A2—3 to 10 inches; gravelly sandy loam

Bw—10 to 17 inches; gravelly sandy loam

Bk1—17 to 23 inches; gravelly sandy loam

Bk2—23 to 41 inches; gravelly sandy loam

Bk3—41 to 50 inches; gravelly sandy loam

Bk4—50 to 65 inches; gravelly sandy loam

C—65 to 70 inches; gravelly sandy loam

Minor components

Cerini and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Tupman and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Fan remnant, stream terrace

Pleitito and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 5 percent

Landform: Flood plain

197—Klipstein-Guijarral complex, 5 to 15 percent slopes

Map unit setting

General location: From Grapevine to San Emidio Ranch in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 590 to 2,065 feet (181 to 630 meters)

Soil Survey of Kern County, California, Southwest Part

Mean annual precipitation: 6 to 10 inches (152 to 254 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Klipstein and similar soils—60 percent

Guijarral and similar soils—25 percent

Minor components—15 percent

Characteristics of Klipstein and similar soils

Slope: 5 to 15 percent

Landform: Alluvial fan, fan remnant

Parent material: Alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: Annual grasses, forbs, and scattered shrubs

Percentage of the surface covered by rock fragments: 3 to 35 percent by subangular stones, 0 to 5 percent by subrounded boulders, 0 to 35 percent by subrounded cobbles, and 0 to 35 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 2.8 inches (low)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 4e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 5 inches; sandy loam

Bw—5 to 23 inches; extremely gravelly sandy loam

Bk1—23 to 30 inches; very gravelly sandy loam

Bk2—30 to 36 inches; loamy sand

Bk3—36 to 60 inches; extremely gravelly sandy loam

Characteristics of Guijarral and similar soils

Slope: 5 to 15 percent

Landform: Fan remnant

Parent material: Alluvium derived from calcareous sedimentary rock

Typical vegetation: Annual grasses, forbs, and scattered shrubs

Percentage of the surface covered by rock fragments: 0 to 50 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.2 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 1 inch; gravelly sandy loam

A2—1 to 4 inches; gravelly sandy loam

Bw—4 to 16 inches; gravelly sandy loam

Bk—16 to 29 inches; gravelly sandy loam

C—29 to 40 inches; gravelly sandy loam

2Ck—40 to 46 inches; very gravelly sandy loam

3C1—46 to 51 inches; very gravelly sandy loam

3C2—51 to 60 inches; very gravelly sandy loam

Minor components

Cerini and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Guijarral and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 5 to 15 percent

Landform: Fan remnant

Tupman and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Fan remnant, stream terrace

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Pleitito and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 5 percent

Landform: Channel, fan remnant, flood plain

200—Hesperia loamy sand, 0 to 2 percent slopes

Map unit setting

General location: East of U.S. Highway 99 in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 395 to 690 feet (121 to 211 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Hesperia and similar soils—85 percent

Minor components—15 percent

Characteristics of Hesperia and similar soils

Slope: 0 to 2 percent

Landform: Alluvial fan

Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.2 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Very low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-1

Land capability classification (nonirrigated areas): 6e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap1—0 to 2 inches; loamy sand

Ap2—2 to 6 inches; loamy sand

C1—6 to 13 inches; loamy sand

C2—13 to 24 inches; sandy loam

C3—24 to 33 inches; sandy loam

C4—33 to 60 inches; sandy loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Guijarral and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Fan remnant

Granoso and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Kimberlina and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Milagro and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent
Landform: Alluvial fan, fan skirt

Vineland and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 1 percent
Landform: Flood plain

201—Hesperia sandy loam, 0 to 2 percent slopes

Map unit setting

General location: East of U.S. Highway 99 in the south part of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 200 to 3,995 feet (61 to 1,219 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 61 to 70 degrees F (16 to 21 degrees C)
Frost-free period: 225 to 310 days

Map unit composition

Hesperia and similar soils—85 percent
Minor components—15 percent

Characteristics of Hesperia and similar soils

Slope: 0 to 2 percent
Landform: Alluvial fan
Parent material: Alluvium derived from granitoid rock
Typical vegetation: Mainly irrigated crops; in a few nonirrigated areas, annual grasses, forbs, and shrubs
Percentage of the surface covered by rock fragments: 5 to 25 percent by coarse, subangular gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 6.2 inches (moderate)
Selected hydrologic properties
Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Very low
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-1
Land capability classification (nonirrigated areas): 6e
Farmland classification: Prime farmland if irrigated

Representative profile

A—0 to 18 inches; sandy loam
C1—18 to 34 inches; fine sandy loam
C2—34 to 70 inches; sandy loam

Minor components

Digiorgio and similar soils

Percentage of component in the map unit: About 9 percent

Slope: 0 to 2 percent
Landform: Basin floor, flood plain

Hesperia, occasionally flooded, and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 2 percent
Landform: Alluvial fan

Whitewolf and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

Unnamed depressional and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 2 percent
Landform: Depression

210—Kimberlina fine sandy loam, 0 to 2 percent slopes

Map unit setting

General location: South of the Kern River in the south part of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 120 to 1,155 feet (38 to 353 meters)
Mean annual precipitation: 4 to 8 inches (102 to 203 millimeters)
Mean annual air temperature: 63 to 64 degrees F (17 to 18 degrees C)
Frost-free period: 190 to 300 days

Map unit composition

Kimberlina and similar soils—85 percent
Minor components—15 percent

Characteristics of Kimberlina and similar soils

Slope: 0 to 2 percent
Landform: Alluvial fan
Parent material: Alluvium derived from igneous and sedimentary rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 7.5 inches (high)

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Very low
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 1
Land capability classification (nonirrigated areas): 7e
Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 9 inches; fine sandy loam

C—9 to 45 inches; fine sandy loam

2C—45 to 71 inches; stratified silt loam to sandy clay loam

Minor components

Wasco and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Milham and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Soils that have a surface layer of sandy clay loam

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Unnamed flood-plain soil and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Flood plain

211—Kimberlina fine sandy loam, 2 to 5 percent slopes

Map unit setting

General location: Buena Vista Valley, Buena Vista Hills, and Temblor Range in the southwest part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 295 to 2,385 feet (90 to 728 meters)

Mean annual precipitation: 5 to 8 inches (127 to 203 millimeters)

Mean annual air temperature: 60 to 65 degrees F (16 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Kimberlina and similar soils—80 percent

Minor components—20 percent

Characteristics of Kimberlina and similar soils

Slope: 2 to 5 percent

Landform: Recent alluvial fan

Parent material: Alluvium derived from sandstone and shale

Typical vegetation: Annual grasses, forbs, and desert shrubs

Percentage of the surface covered by rock fragments: 0 to 5 percent by subrounded cobbles and 0 to 50 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 8.0 inches (high)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1
Land capability classification (nonirrigated areas): 7e
Farmland classification: Farmland of statewide importance

Representative profile

A—0 to 10 inches; fine sandy loam
C1—10 to 19 inches; fine sandy loam
C2—19 to 28 inches; sandy loam
C3—28 to 45 inches; sandy loam
C4—45 to 60 inches; sandy loam

Minor components

Guijarral and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 2 to 9 percent
Landform: Fan remnant

Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 5 percent
Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 2 to 5 percent
Landform: Hillslope

Kimberlina sandy loam and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 2 to 9 percent
Landform: Recent alluvial fan

Granoso and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 1 percent
Landform: Channel, flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 2 to 5 percent
Landform: Alluvial fan, stream terrace

Water evaporation ponds

Percentage of component in the map unit: About 1 percent
Slope: 0 to 5 percent
Landform: Alluvial fan

Unnamed flood-plain soil and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 2 percent
Landform: Flood plain

212—Kimberlina fine sandy loam, saline-sodic, 0 to 2 percent slopes

Map unit setting

General location: South part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 295 to 680 feet (90 to 208 meters)

Mean annual precipitation: 4 to 8 inches (102 to 203 millimeters)

Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 210 to 300 days

Map unit composition

Kimberlina, saline-sodic, and similar soils—85 percent

Minor components—15 percent

Characteristics of Kimberlina, saline-sodic, and similar soils

Slope: 0 to 2 percent

Landform: Alluvial fan

Parent material: Alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.5 inches (high)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 2s-6

Land capability classification (nonirrigated areas): 7s

Farmland classification: Farmland of statewide importance

Representative profile

A—0 to 9 inches; fine sandy loam

C—9 to 45 inches; fine sandy loam

2C—45 to 71 inches; stratified silt loam to sandy clay loam

Minor components

Soils that are stratified

Percentage of component in the map unit: About 7 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Soils that have compact sandy layers

Percentage of component in the map unit: About 7 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Unnamed flood-plain soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent
Landform: Flood plain

214—Kimberlina gravelly sandy loam, 0 to 2 percent slopes

Map unit setting

General location: South end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 500 to 1,215 feet (153 to 371 meters)
Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)
Mean annual air temperature: 62 to 64 degrees F (17 to 18 degrees C)
Frost-free period: 240 to 300 days

Map unit composition

Kimberlina and similar soils—85 percent
Minor components—15 percent

Characteristics of Kimberlina and similar soils

Slope: 0 to 2 percent
Landform: Fan skirt, flood plain
Parent material: Alluvium derived from sandstone and shale
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 to 5 percent by subrounded cobbles and 0 to 50 percent by coarse, subrounded gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 7.8 inches (high)

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Low
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1
Land capability classification (nonirrigated areas): 7e
Farmland classification: Prime farmland if irrigated

Representative profile

A—0 to 10 inches; gravelly sandy loam
C1—10 to 19 inches; gravelly fine sandy loam
C2—19 to 28 inches; gravelly sandy loam
C3—28 to 45 inches; gravelly sandy loam
C4—45 to 60 inches; gravelly sandy loam

Minor components

Granoso and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

Riverwash

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Channel, flood plain

Elkhills and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Hillslope

Torriorthents and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Fan skirt

215—Kimberlina gravelly sandy loam, 5 to 9 percent slopes

Map unit setting

General location: South part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 245 to 3,500 feet (76 to 1,067 meters)

Mean annual precipitation: 4 to 8 inches (102 to 203 millimeters)

Mean annual air temperature: 63 to 64 degrees F (17 to 18 degrees C)

Frost-free period: 190 to 300 days

Map unit composition

Kimberlina and similar soils—85 percent

Minor components—15 percent

Characteristics of Kimberlina and similar soils

Slope: 5 to 9 percent

Landform: Alluvial fan

Parent material: Alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.2 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

A—0 to 25 inches; gravelly sandy loam

C—25 to 60 inches; gravelly fine sandy loam

Minor components

Kimberlina, sandy clay loam substratum, and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 5 to 9 percent

Landform: Alluvial fan

Panoche and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 5 to 9 percent

Landform: Alluvial fan

Milham and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 5 to 9 percent

Landform: Alluvial fan

**216—Kimberlina-Granoso complex, 0 to 5 percent slopes,
occasionally flooded**

Map unit setting

General location: Near Taft in the southwest part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 350 to 1,175 feet (108 to 359 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 64 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Kimberlina, occasionally flooded, and similar soils—50 percent

Granoso, occasionally flooded, and similar soils—35 percent

Minor components—15 percent

Characteristics of Kimberlina, occasionally flooded, and similar soils

Slope: 2 to 5 percent

Landform: Fan skirt

Parent material: Alluvium derived from granitoid rock

Typical vegetation: Cropland or desert shrubs with annual grasses and forbs

Percentage of the surface covered by rock fragments: 0 to 5 percent by subrounded cobbles and 0 to 50 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.8 inches (high)

Selected hydrologic properties

Present annual flooding: Occasional

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

- A—0 to 10 inches; sandy loam
- C1—10 to 19 inches; sandy loam
- C2—19 to 28 inches; sandy loam
- C3—28 to 45 inches; sandy loam
- C4—45 to 60 inches; sandy loam

Characteristics of Granoso, occasionally flooded, and similar soils

Slope: 0 to 5 percent

Landform: Alluvial fan, flood plain

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Cropland or desert shrubs with annual grasses and forbs

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 3.4 inches (low)

Selected hydrologic properties

Present annual flooding: Occasional

Present annual ponding: None

Surface runoff class: Very low

Current water table: None noted

Natural drainage class: Somewhat excessively drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

- Ap—0 to 10 inches; loamy sand
- C1—10 to 20 inches; sand
- C2—20 to 36 inches; gravelly coarse sand
- C3—36 to 62 inches; stratified gravelly coarse sand to sand

Minor components

Elkhills and similar soils

Percentage of component in the map unit: About 7 percent

Slope: 0 to 5 percent

Landform: Hillslope

Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 5 to 15 percent

Landform: Hillslope

Riverwash

Percentage of component in the map unit: About 1 percent

Slope: 0 to 5 percent

Landform: Channel, flood plain

Water

Percentage of component in the map unit: About 1 percent

Slope: 0 percent

Landform: None assigned

Granoso and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 9 percent

Landform: Alluvial fan

217—Kimberlina-Urban land complex, 0 to 5 percent slopes

Map unit setting

General location: Near Taft in the southwest part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 455 to 1,245 feet (139 to 380 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 64 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Kimberlina and similar soils—50 percent

Urban land—35 percent

Minor components—15 percent

Characteristics of Kimberlina and similar soils

Slope: 0 to 5 percent

Landform: Fan skirt

Parent material: Alluvium derived from sandstone and shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 5 percent by subrounded cobbles and 0 to 50 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.8 inches (high)

Selected hydrologic properties

Present annual flooding: Very rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 10 inches; sandy loam

C1—10 to 19 inches; sandy loam

C2—19 to 28 inches; sandy loam

C3—28 to 45 inches; sandy loam

C4—45 to 60 inches; sandy loam

Characteristics of Urban land

Slope: 0 to 5 percent
Landform: Alluvial fan

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): Not assigned
Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Granoso and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 5 percent
Landform: Alluvial fan, flood plain

Riverwash

Percentage of component in the map unit: About 4 percent
Slope: 0 to 5 percent
Landform: Channel, flood plain

Elkhills and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 5 percent
Landform: Hillslope

Torriorthents and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 5 percent
Landform: Alluvial fan, flood plain

Guijarral and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 5 percent
Landform: Fan remnant, flood plain

Kimberlina, sandy clay loam substratum, and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 5 percent
Landform: Recent alluvial fan

219—Xerorthents-Badlands complex, 30 to 75 percent slopes

Map unit setting

General location: Temblor and La Panza Ranges
MLRA: 15—Central California Coast Range
Landscape: Mountains
Elevation: 1,200 to 3,585 feet (366 to 1,093 meters)

Soil Survey of Kern County, California, Southwest Part

Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)

Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Frost-free period: 170 to 180 days

Map unit composition

Xerorthents and similar soils—50 percent

Badlands—35 percent

Minor components—15 percent

Characteristics of Xerorthents and similar soils

Slope: 30 to 75 percent

Landform: Mountain slope

Parent material: Residuum weathered from basalt, sandstone, or shale

Typical vegetation: Sparse annual grasses and forbs and scattered shrubs

Percentage of the surface covered by rock fragments: 35 to 60 percent by coarse, subangular gravel

Depth to a restrictive feature: Lithic bedrock—16 to 36 inches

Available water capacity to a depth of 60 inches: About 2.3 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Somewhat excessively drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 12 inches; very gravelly loam

C1—12 to 19 inches; very gravelly loam

C2—19 to 26 inches; extremely cobbly loam

R—26 to 36 inches; unweathered bedrock

Characteristics of Badlands

Slope: 30 to 75 percent

Landform: Mountain slope

Kind of material: Residuum weathered from basalt, sandstone, or shale

Typical vegetation: Component is barren.

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Beam fine sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 75 percent

Landform: Hillslope

Hillbrick loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 75 percent

Landform: Hillslope

Kilmer loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 75 percent

Landform: Hillslope

Panoza loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 75 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 3 percent

Slope: 30 to 75 percent

Landform: Hillslope, mountain slope

220—Lokern clay, drained, 0 to 1 percent slopes

Map unit setting

General location: Near the Buena Vista Lake Bed in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 275 to 300 feet (85 to 92 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Lokern, drained, and similar soils—85 percent

Minor components—15 percent

Characteristics of Lokern, drained, and similar soils

Slope: 0 to 1 percent

Landform: Basin floor

Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.1 inches (moderate)

Soil Survey of Kern County, California, Southwest Part

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare

Present annual ponding: Rare

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Somewhat poorly drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 2s-5

Land capability classification (nonirrigated areas): 7s

Farmland classification: Prime farmland if irrigated

Representative profile

Ap1—0 to 11 inches; clay

Ap2—11 to 21 inches; silty clay

A—21 to 28 inches; clay

2Cy1—28 to 33 inches; clay

2Cy2—33 to 42 inches; clay

2Cy3—42 to 53 inches; clay

2Cy4—53 to 60 inches; clay

2C—60 to 67 inches; clay

Minor components

Buttonwillow and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 1 percent

Landform: Basin floor

Garces loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Basin floor

Oldriver and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Basin floor

Bakersfield and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 1 percent

Landform: Flood plain

Copus and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 1 percent

Landform: Basin floor

Vineland and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 1 percent

Landform: Flood plain

221—Lokern clay, partially drained, 0 to 1 percent slopes

Map unit setting

General location: Near the Buena Vista Lake Bed in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 275 to 280 feet (84 to 86 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Lokern, partially drained, and similar soils—85 percent

Minor components—15 percent

Characteristics of Lokern, partially drained, and similar soils

Slope: 0 to 1 percent

Landform: Basin floor

Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.1 inches (moderate)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare

Present annual ponding: Rare

Surface runoff class: Medium

Current water table: Present

Natural drainage class: Somewhat poorly drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 3w-5

Land capability classification (nonirrigated areas): 7w

Farmland classification: Farmland of statewide importance

Representative profile

Ap1—0 to 11 inches; clay

Ap2—11 to 21 inches; silty clay

A—21 to 28 inches; clay

2Cy1—28 to 33 inches; clay

2Cy2—33 to 42 inches; clay

2Cy3—42 to 53 inches; clay

2Cy4—53 to 60 inches; clay

2C—60 to 67 inches; clay

Minor components

Garces and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 1 percent
Landform: Basin floor

Oldriver and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 1 percent
Landform: Basin floor

Bakersfield and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Flood plain

Copus and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 1 percent
Landform: Basin floor

Vineland and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 1 percent
Landform: Flood plain

230—Milagro loamy sand, 0 to 1 percent slopes

Map unit setting

General location: South of the Kern River near the south part of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 300 to 515 feet (92 to 158 meters)
Mean annual precipitation: 5 to 7 inches (127 to 178 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Milagro and similar soils—85 percent
Minor components—15 percent

Characteristics of Milagro and similar soils

Slope: 0 to 1 percent
Landform: Fan skirt
Parent material: Alluvium derived from granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 7.4 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Negligible
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3s-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 8 inches; loamy sand

A—8 to 14 inches; loamy sand

C1—14 to 19 inches; fine sandy loam

C2—19 to 27 inches; stratified sandy loam to silty clay loam

C3—27 to 32 inches; stratified sandy loam to silty clay loam

C4—32 to 51 inches; stratified sandy loam to silty clay loam

C5—51 to 60 inches; stratified sandy loam to silty clay loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Flood plain

Granoso and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Flood plain

Kimberlina and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Fan skirt

Milagro and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Vineland and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 1 percent

Landform: Flood plain

Wasco and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

231—Milagro fine sandy loam, 0 to 1 percent slopes

Map unit setting

General location: From the Buena Vista Lake Bed area to Mettler and Arvin in the south part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 290 to 480 feet (89 to 147 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Milagro and similar soils—85 percent
Minor components—15 percent

Characteristics of Milagro and similar soils

Slope: 0 to 1 percent
Landform: Alluvial fan, fan skirt
Parent material: Alluvium derived from granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 8.2 inches (high)

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Negligible
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-1
Land capability classification (nonirrigated areas): 7e
Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 8 inches; fine sandy loam
A—8 to 14 inches; fine sandy loam
C1—14 to 19 inches; stratified loamy fine sand to silt loam
C2—19 to 27 inches; stratified loamy fine sand to silt loam
C3—27 to 32 inches; stratified loamy fine sand to silt loam
C4—32 to 51 inches; stratified loamy fine sand to silt loam
C5—51 to 60 inches; stratified loamy fine sand to silt loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 2 percent
Landform: Flood plain

Kimberlina and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 2 percent
Landform: Fan skirt

Granoso and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Flood plain

Milagro and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

Unnamed soil, slough, and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 1 percent

Landform: Slough

Vineland and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 1 percent

Landform: Flood plain

Wasco and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

240—Millox clay loam, partially drained, 0 to 1 percent slopes

Map unit setting

General location: Near the Buena Vista Lake Bed in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 275 to 310 feet (85 to 96 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Millox, partially drained, and similar soils—85 percent

Minor components—15 percent

Characteristics of Millox, partially drained, and similar soils

Slope: 0 to 1 percent

Landform: Basin floor

Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 3.8 inches (low)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: Rare

Surface runoff class: Low

Current water table: Present

Natural drainage class: Moderately well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 3s-6

Land capability classification (nonirrigated areas): 7s

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap—0 to 5 inches; clay loam
Bw—5 to 19 inches; clay
Bkss—19 to 35 inches; clay
Bknz—35 to 53 inches; clay
2Btknz—53 to 60 inches; sandy clay loam
3Bnz—60 to 65 inches; fine sandy loam

Minor components

Tennco and similar soils

Percentage of component in the map unit: About 6 percent
Slope: 0 to 1 percent
Landform: Nonburied fan remnant

Oldriver and similar soils

Percentage of component in the map unit: About 6 percent
Slope: 0 to 1 percent
Landform: Basin floor

Playa

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Basin-floor remnant

241—Millox clay loam, partially drained, nonsaline, 0 to 1 percent slopes

Map unit setting

General location: Near the Buena Vista Lake Bed in the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 285 to 295 feet (87 to 90 meters)
Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Millox, partially drained, nonsaline, and similar soils—85 percent
Minor components—15 percent

Characteristics of Millox, partially drained, nonsaline, and similar soils

Slope: 0 to 1 percent
Landform: Basin floor
Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 5.5 inches (moderate)
Selected hydrologic properties
Present annual flooding: Rare
Present annual ponding: Rare
Surface runoff class: Low

Current water table: Present
Natural drainage class: Moderately well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 2s-6
Land capability classification (nonirrigated areas): 7s
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap—0 to 5 inches; clay loam
Bw—5 to 19 inches; clay
Bkss—19 to 35 inches; clay
Bknz—35 to 53 inches; clay
2Btknz—53 to 60 inches; clay loam
3Bnz—60 to 65 inches; fine sandy loam

Minor components

Tennco and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 1 percent
Landform: Basin floor

Oldriver and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 1 percent
Landform: Basin floor

Buttonwillow and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Basin floor

Lokern and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 1 percent
Landform: Basin floor

Playa

Percentage of component in the map unit: About 1 percent
Slope: 0 to 1 percent
Landform: Basin-floor remnant

242—Millox, partially drained-Tennco complex, 0 to 1 percent slopes

Map unit setting

General location: Near the Buena Vista Lake Bed in the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 285 to 300 feet (88 to 92 meters)
Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Millox, partially drained, and similar soils—55 percent

Tennco and similar soils—35 percent

Minor components—10 percent

Characteristics of Millox, partially drained, and similar soils

Slope: 0 to 1 percent

Landform: Basin floor

Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 3.8 inches (low)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: Rare

Surface runoff class: Low

Current water table: Present

Natural drainage class: Moderately well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 3s-6

Land capability classification (nonirrigated areas): 7s

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap—0 to 5 inches; clay loam

Bw—5 to 19 inches; clay

Bkss—19 to 35 inches; clay

Bknz—35 to 53 inches; clay

2Btknz—53 to 60 inches; sandy clay loam

3Bnz—60 to 65 inches; sandy loam

Characteristics of Tennco and similar soils

Slope: 0 to 1 percent

Landform: Nonburied fan remnant

Parent material: Alluvium derived from granitoid rocks

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Depth to a restrictive feature: Natric horizon—2 to 8 inches

Available water capacity to a depth of 60 inches: About 0.6 inch (very low)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Negligible

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 4s-6

Land capability classification (nonirrigated areas): 7s

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 1 inch; very fine sandy loam
Enz—1 to 5 inches; sandy loam
Btnz—5 to 13 inches; sandy loam
Bnz1—13 to 18 inches; loam
Bnz2—18 to 25 inches; silt loam
Bnz3—25 to 45 inches; loam
Bnz4—45 to 60 inches; loam

Minor components

Oldriver and similar soils

Percentage of component in the map unit: About 8 percent
Slope: 0 to 1 percent
Landform: Basin floor

Playa

Percentage of component in the map unit: About 2 percent
Slope: 0 to 1 percent
Landform: Basin-floor remnant

243—Millox-Zalvidea complex, partially drained, 0 to 1 percent slopes

Map unit setting

General location: Near the Buena Vista Lake Bed in the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 285 to 295 feet (87 to 90 meters)
Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Millox, partially drained, and similar soils—50 percent
Zalvidea, partially drained, and similar soils—35 percent
Minor components—15 percent

Characteristics of Millox, partially drained, and similar soils

Slope: 0 to 1 percent
Landform: Basin floor
Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 4.9 inches (low)
Selected hydrologic properties
Present annual flooding: Rare
Present annual ponding: Rare
Surface runoff class: Low
Current water table: Present
Natural drainage class: Moderately well drained
Hydrologic soil group: C

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Interpretive groups

Land capability classification (irrigated areas): 2s-6

Land capability classification (nonirrigated areas): 7s

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap—0 to 5 inches; clay loam

Bw—5 to 19 inches; clay

Bkss—19 to 35 inches; clay

Bknz—35 to 53 inches; clay

2Btknz—53 to 60 inches; clay loam

3Bnz—60 to 65 inches; fine sandy loam

Characteristics of Zalvidea, partially drained, and similar soils

Slope: 0 to 1 percent

Landform: Basin floor, fan skirt

Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare

Present annual ponding: Rare

Surface runoff class: Negligible

Current water table: Present

Natural drainage class: Somewhat poorly drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-6

Land capability classification (nonirrigated areas): 7s

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap—0 to 8 inches; sandy loam

By1—8 to 23 inches; sandy loam

By2—23 to 27 inches; sandy loam

By3—27 to 37 inches; sandy loam

BCy—37 to 52 inches; fine sandy loam

2C—52 to 65 inches; stratified sand to sandy loam

3C—65 to 69 inches; stratified sand to sandy loam

Minor components

Tennco and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 1 percent

Landform: Nonburied basin floor

Oldriver and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 1 percent
Landform: Basin floor

Buttonwillow and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Basin floor

Lokern and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 1 percent
Landform: Basin floor

Playa

Percentage of component in the map unit: About 1 percent
Slope: 0 to 1 percent
Landform: Basin-floor remnant

246—Whitewolf coarse sandy loam, 0 to 2 percent slopes

Map unit setting

General location: Near Lamont in the south part of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 200 to 3,995 feet (61 to 1,219 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 64 degrees F (18 degrees C)
Frost-free period: 200 to 300 days

Map unit composition

Whitewolf and similar soils—85 percent
Minor components—15 percent

Characteristics of Whitewolf and similar soils

Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain
Parent material: Alluvium derived from granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Very low
Current water table: None noted
Natural drainage class: Somewhat excessively drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3s-4
Land capability classification (nonirrigated areas): 7s
Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 11 inches; coarse sandy loam
C—11 to 65 inches; loamy coarse sand

Minor components

Hesperia and similar soils

Percentage of component in the map unit: About 10 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

Granoso and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

250—Oldriver loam, drained, 0 to 1 percent slopes

Map unit setting

General location: South of the Kern River near the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 295 to 305 feet (90 to 93 meters)
Mean annual precipitation: 5 to 7 inches (127 to 178 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Oldriver and similar soils—85 percent
Minor components—15 percent

Characteristics of Oldriver and similar soils

Slope: 0 to 1 percent
Landform: Flood plain
Parent material: Alluvium derived from granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 7.9 inches (high)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.
Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Negligible
Current water table: None noted
Natural drainage class: Somewhat poorly drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-3
Land capability classification (nonirrigated areas): 7s
Farmland classification: Farmland of statewide importance

Representative profile

- Ap—0 to 11 inches; loam
- C1—11 to 16 inches; loam
- C2—16 to 22 inches; stratified fine sandy loam to loam
- C3—22 to 30 inches; stratified fine sandy loam to loam
- C4—30 to 39 inches; stratified fine sandy loam to loam
- C5—39 to 49 inches; stratified fine sandy loam to loam
- C6—49 to 63 inches; stratified sandy loam to loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 0 to 1 percent

Landform: Flood plain

Granoso and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 1 percent

Landform: Flood plain

Vineland and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 1 percent

Landform: Flood plain

251—Oldriver loam, partially drained, sodic, 0 to 1 percent slopes

Map unit setting

General location: South of the Kern River near the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 280 to 360 feet (86 to 111 meters)

Mean annual precipitation: 5 to 7 inches (127 to 178 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Oldriver, partially drained, sodic, and similar soils—85 percent

Minor components—15 percent

Characteristics of Oldriver, partially drained, sodic, and similar soils

Slope: 0 to 1 percent

Landform: Flood plain

Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.9 inches (high)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Negligible
Current water table: None noted
Natural drainage class: Somewhat poorly drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2w-2
Land capability classification (nonirrigated areas): 7w
Farmland classification: Farmland of statewide importance

Representative profile

Ap—0 to 11 inches; loam
C1—11 to 16 inches; stratified fine sandy loam to silt loam
C2—16 to 22 inches; stratified fine sandy loam to silt loam
C3—22 to 30 inches; clay
C4—30 to 39 inches; stratified fine sandy loam to silty clay
C5—39 to 49 inches; stratified fine sandy loam to silty clay
C6—49 to 63 inches; silty clay

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 1 percent
Landform: Flood plain

Granoso and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 1 percent
Landform: Flood plain

Vineland and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 1 percent
Landform: Flood plain

260—Panoche loam, 0 to 1 percent slopes

Map unit setting

General location: Near the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 320 to 395 feet (98 to 121 meters)
Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Panoche and similar soils—85 percent
Minor components—15 percent

Characteristics of Panoche and similar soils

Slope: 0 to 1 percent
Landform: Alluvial fan

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Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 10.3 inches (very high)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 9 inches; loam

Bw—9 to 23 inches; loam

Bk1—23 to 39 inches; loam

Bk2—39 to 60 inches; loam

Minor components

Calflax and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 0 to 1 percent

Landform: Fan skirt

Guijarral and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 1 percent

Landform: Fan remnant

Excelsior and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 1 percent

Landform: Alluvial fan

Granoso and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 1 percent

Landform: Channel, flood plain

Kimberlina and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 1 percent

Landform: Recent alluvial fan

Unnamed depressional and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 1 percent

Landform: Depression, swale

270—Pits and dumps

Map unit setting

General location: The lower hills in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills and valleys

Elevation: 305 to 4,080 feet (94 to 1,244 meters)

Mean annual precipitation: 5 to 8 inches (127 to 203 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Pits—50 percent

Dumps—50 percent

Characteristics of Pits

Slope: 0 to 2 percent

Landform: Conservation terrace, gravel pit, quarry

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Current water table: None noted

Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Characteristics of Dumps

Slope: 0 to 5 percent

Landform: Dump

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Current water table: None noted

Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

280—Premier sandy loam, 0 to 2 percent slopes

Map unit setting

General location: North of the Grapevine in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 445 to 1,240 feet (136 to 379 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Premier and similar soils—85 percent

Minor components—15 percent

Characteristics of Premier and similar soils

Slope: 0 to 2 percent

Landform: Alluvial fan

Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 3 percent by medium, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 8.7 inches (high)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Very low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 16 inches; sandy loam

C—16 to 60 inches; sandy loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Granoso and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Guijarral and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Fan remnant

Kimberlina and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Milagro and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan skirt

Unnamed flood-plain soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Depression, flood plain

Wasco and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

281—Premier sandy loam, 2 to 5 percent slopes

Map unit setting

General location: North of the Grapevine in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 925 to 1,310 feet (283 to 400 meters)

Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Premier and similar soils—85 percent

Minor components—15 percent

Characteristics of Premier and similar soils

Slope: 2 to 5 percent

Landform: Alluvial fan

Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 3 percent by medium, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 8.7 inches (high)

Selected hydrologic properties

Present annual flooding: Very rare

Present annual ponding: None

Surface runoff class: Very low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 16 inches; sandy loam

C—16 to 60 inches; sandy loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Guijarral and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Fan remnant

Granoso and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Kimberlina and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Milagro and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, fan skirt

Wasco and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

290—Riverwash

Map unit setting

General location: Scattered areas throughout the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 295 to 1,000 feet (91 to 305 meters)

Mean annual precipitation: 5 to 8 inches (127 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Riverwash—85 percent

Minor components—15 percent

Characteristics of Riverwash

Slope: 0 to 5 percent

Landform: Channel, flood plain

Kind of material: Alluvium derived from mixed sources

Typical vegetation: None assigned

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Low
Current water table: None noted
Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 8
Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Fluvaquents

Percentage of component in the map unit: About 5 percent
Slope: 0 to 5 percent
Landform: Channel, flood plain

Xerofluvents and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 5 percent
Landform: Flood plain

Xerorthents, sandy, and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 5 percent
Landform: Flood plain

300—Tennco fine sandy loam, 0 to 1 percent slopes

Map unit setting

General location: South of the Kern River and northeast of the Buena Vista Lake Bed
in the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 295 to 325 feet (90 to 100 meters)
Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Tennco and similar soils—85 percent
Minor components—15 percent

Characteristics of Tennco and similar soils

Slope: 0 to 1 percent
Landform: Nonburied fan remnant
Parent material: Alluvium derived from granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Depth to a restrictive feature: Natric horizon—2 to 8 inches
Available water capacity to a depth of 60 inches: About 0.6 inch (very low)

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: None

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Surface runoff class: Negligible
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 4s-6
Land capability classification (nonirrigated areas): 7s
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 1 inch; fine sandy loam
Enz—1 to 5 inches; sandy loam
Btnz—5 to 13 inches; sandy loam
Bnz1—13 to 18 inches; loam
Bnz2—18 to 25 inches; silt loam
Bnz3—25 to 45 inches; loam
Bnz4—45 to 60 inches; loam

Minor components

Excelsior and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 1 percent
Landform: Alluvial fan

Granoso and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Flood plain

Oldriver and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Flood plain

Vineland and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Flood plain

Playa

Percentage of component in the map unit: About 2 percent
Slope: 0 to 1 percent
Landform: Playa

310—Vineland loamy sand, drained, 0 to 1 percent slopes

Map unit setting

General location: South of the Kern River and northeast of the Buena Vista Lake Bed in the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 280 to 340 feet (86 to 105 meters)
Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Vineland, drained, and similar soils—85 percent
Minor components—15 percent

Characteristics of Vineland, drained, and similar soils

Slope: 0 to 1 percent

Landform: Flood plain

Parent material: Alluvium derived from granitoid rock

Typical vegetation: Most areas are cultivated; the few uncultivated areas support willows, desert shrubs, annual grasses, and forbs.

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.2 inches (moderate)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Negligible

Current water table: None noted

Natural drainage class: Somewhat excessively drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3s-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap—0 to 6 inches; loamy sand

A—6 to 14 inches; loamy sand

C1—14 to 22 inches; stratified coarse sand to fine sandy loam

C2—22 to 26 inches; stratified coarse sand to fine sandy loam

C3—26 to 38 inches; stratified sand to loam

C4—38 to 43 inches; stratified sand to loam

C5—43 to 54 inches; stratified sand to loam

C6—54 to 58 inches; stratified sand to loam

C7—58 to 64 inches; stratified sand to loam

Minor components

Excelsior and similar soils

Percentage of component in the map unit: About 10 percent

Slope: 0 to 1 percent

Landform: Alluvial fan

Granoso and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Flood plain

Milagro and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 1 percent

Landform: Fan skirt

312—Vineland-Bakersfield complex, 0 to 1 percent slopes, drained

Map unit setting

General location: South of the Kern River and northeast of the Buena Vista Lake Bed in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 395 to 695 feet (121 to 212 meters)

Mean annual precipitation: 5 to 8 inches (127 to 203 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Vineland, drained, and similar soils—50 percent

Bakersfield, drained, and similar soils—40 percent

Minor components—10 percent

Characteristics of Vineland, drained, and similar soils

Slope: 0 to 1 percent

Landform: Flood plain

Parent material: Alluvium derived from granitoid rock

Typical vegetation: All areas are cultivated.

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.6 inches (moderate)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Negligible

Current water table: None noted

Natural drainage class: Somewhat excessively drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3s-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap—0 to 6 inches; loamy sand

A—6 to 14 inches; loamy sand

C1—14 to 22 inches; loamy sand

C2—22 to 26 inches; loamy sand

C3—26 to 38 inches; stratified sand to silt loam

C4—38 to 43 inches; stratified sand to silt loam

C5—43 to 54 inches; stratified sand to silt loam

C6—54 to 58 inches; stratified sand to silt loam

C7—58 to 64 inches; stratified sand to silt loam

Characteristics of Bakersfield, drained, and similar soils

Slope: 0 to 1 percent

Landform: Flood plain

Parent material: Alluvium derived from granitoid rock

Typical vegetation: All areas are cultivated.

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 9.8 inches (high)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Negligible

Current water table: None noted

Natural drainage class: Somewhat poorly drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 6s

Land capability classification (nonirrigated areas): 7s

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap1—0 to 3 inches; fine sandy loam

Ap2—3 to 10 inches; fine sandy loam

A—10 to 16 inches; fine sandy loam

C1—16 to 29 inches; stratified sand to loam

C2—29 to 45 inches; stratified sand to loam

Ck—45 to 51 inches; loam

C'1—51 to 58 inches; stratified sandy loam to silt loam

C'2—58 to 66 inches; stratified sand to loam

Minor components

Excelsior and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 0 to 1 percent

Landform: Alluvial fan

Granoso and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Flood plain

Unnamed soil, channel, and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 1 percent

Landform: Channel

320—Wasco sandy loam, 0 to 1 percent slopes

Map unit setting

General location: From the Kern Lake Bed northeast to Arvin and Lamont

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 365 to 425 feet (112 to 131 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Wasco and similar soils—85 percent

Minor components—15 percent

Characteristics of Wasco and similar soils

Slope: 0 to 1 percent

Landform: Alluvial fan

Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.9 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Very low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap—0 to 7 inches; sandy loam

A—7 to 17 inches; sandy loam

C1—17 to 25 inches; sandy loam

C2—25 to 31 inches; sandy loam

C3—31 to 64 inches; sandy loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Kimberlina and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

Milagro and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, fan skirt

Wasco and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

330—Cuyama sandy loam, 2 to 5 percent slopes

Map unit setting

General location: Near the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 525 to 1,370 feet (161 to 418 meters)
Mean annual precipitation: 7 to 8 inches (178 to 203 millimeters)
Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Cuyama and similar soils—85 percent
Minor components—15 percent

Characteristics of Cuyama and similar soils

Slope: 2 to 5 percent
Landform: Fan remnant
Parent material: Alluvium derived from granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 to 25 percent by coarse, subrounded gravel and 0 to 10 percent by subrounded cobbles
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 6.9 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Low
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1
Land capability classification (nonirrigated areas): 4e
Farmland classification: Farmland of statewide importance

Representative profile

A1—0 to 5 inches; sandy loam
A2—5 to 13 inches; loam
Bk—13 to 28 inches; loam
2Btk—28 to 42 inches; gravelly sandy clay loam

2Bk1—42 to 58 inches; extremely stony sandy loam

3Bk2—58 to 75 inches; extremely cobbly sand

Minor components

Cerini and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Guijarral and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 2 to 5 percent

Landform: Fan remnant

Tupman and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Fan remnant, stream terrace

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

331—Cuyama sandy loam, 5 to 15 percent slopes

Map unit setting

General location: Near the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 895 to 1,685 feet (274 to 515 meters)

Mean annual precipitation: 7 to 9 inches (178 to 229 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Cuyama and similar soils—85 percent

Minor components—15 percent

Characteristics of Cuyama and similar soils

Slope: 5 to 15 percent

Landform: Fan remnant

Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 25 percent by coarse, subrounded gravel and 0 to 10 percent by subrounded cobbles

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.9 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1

Land capability classification (nonirrigated areas): 4e

Farmland classification: Farmland of statewide importance

Representative profile

A1—0 to 5 inches; sandy loam

A2—5 to 13 inches; loam

Bk—13 to 28 inches; loam

2Btk—28 to 42 inches; gravelly sandy clay loam

2Bk1—42 to 58 inches; extremely stony sandy loam

3Bk2—58 to 75 inches; extremely cobbly sand

Minor components

Cerini and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Guijarral and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 5 to 15 percent

Landform: Fan remnant

Tupman and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Fan remnant, stream terrace

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

332—Cuyama sandy loam, 15 to 30 percent slopes

Map unit setting

General location: Near the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 1,240 to 1,675 feet (378 to 512 meters)

Mean annual precipitation: 7 to 9 inches (178 to 229 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Cuyama and similar soils—85 percent

Minor components—15 percent

Characteristics of Cuyama and similar soils

Slope: 15 to 30 percent

Landform: Fan remnant

Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 10 percent by subrounded cobbles and 0 to 25 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.9 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1

Land capability classification (nonirrigated areas): 4e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 5 inches; sandy loam

A2—5 to 13 inches; loam

Bk—13 to 28 inches; loam

2Btk—28 to 42 inches; gravelly sandy clay loam

2Bk1—42 to 58 inches; extremely stony sandy loam

3Bk2—58 to 75 inches; extremely cobbly sand

Minor components

Cerini and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Guijarral and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 5 to 9 percent

Landform: Fan remnant

Tupman and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Fan remnant, stream terrace

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

340—Weedpatch clay loam, 0 to 1 percent slopes

Map unit setting

General location: Near the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 275 to 350 feet (85 to 108 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Weedpatch and similar soils—85 percent
Minor components—15 percent

Characteristics of Weedpatch and similar soils

Slope: 0 to 1 percent
Landform: Basin-floor remnant
Parent material: Alluvium derived from granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 9.4 inches (high)

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Negligible
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 3s-6
Land capability classification (nonirrigated areas): 7s
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap—0 to 8 inches; clay loam
Bw—8 to 18 inches; clay loam
2Bk1—18 to 24 inches; clay loam
2Bk2—24 to 42 inches; clay loam
2Bk3—42 to 47 inches; clay loam
2Bk4—47 to 59 inches; clay loam
2C—59 to 64 inches; clay loam

Minor components

Garces and similar soils

Percentage of component in the map unit: About 7 percent
Slope: 0 to 1 percent
Landform: Basin-floor remnant

Oldriver and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 1 percent
Landform: Flood plain

Guijarral and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Fan remnant

Playa

Percentage of component in the map unit: About 1 percent
Slope: 0 to 1 percent
Landform: Basin-floor remnant

350—Posochanet silt loam, saline-sodic, 0 to 1 percent slopes

Map unit setting

General location: South of the Kern River, near the edge of the Buena Vista Lake Bed in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 290 to 415 feet (89 to 128 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Posochanet, saline-sodic, and similar soils—85 percent

Minor components—15 percent

Characteristics of Posochanet, saline-sodic, and similar soils

Slope: 0 to 1 percent

Landform: Fan skirt

Parent material: Alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.8 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Moderately well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 2s-6

Land capability classification (nonirrigated areas): 7s

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 1 inch; silt loam

Bw—1 to 6 inches; silty clay loam

Bnyz1—6 to 16 inches; silty clay loam

Bnyz2—16 to 26 inches; clay loam

Bnyz3—26 to 41 inches; silty clay

Bnyz4—41 to 54 inches; clay loam

Bnyz5—54 to 58 inches; loam

Bnyz6—58 to 62 inches; silt loam

Minor components

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Bakersfield and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Flood plain

Granoso and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Vineland and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Flood plain

Guijarral and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 5 percent

Landform: Fan remnant

351—Posochanet silty clay loam, saline-sodic, 0 to 1 percent slopes

Map unit setting

General location: South of the Kern River, near the edge of the Buena Vista Lake Bed in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 290 to 335 feet (89 to 103 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Posochanet, saline-sodic, and similar soils—75 percent

Minor components—25 percent

Characteristics of Posochanet, saline-sodic, and similar soils

Slope: 0 to 1 percent

Landform: Fan skirt

Parent material: Alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.8 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Moderately well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 2s-6

Land capability classification (nonirrigated areas): 7s

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 1 inch; silty clay loam
Bw—1 to 6 inches; silty clay loam
Bnyz1—6 to 16 inches; silty clay loam
Bnyz2—16 to 26 inches; clay loam
Bnyz3—26 to 41 inches; silty clay
Bnyz4—41 to 54 inches; clay loam
Bnyz5—54 to 58 inches; loam
Bnyz6—58 to 62 inches; silt loam

Minor components

Posochanet, partially reclaimed, and similar soils

Percentage of component in the map unit: About 10 percent

Slope: 0 to 1 percent

Landform: Flood plain

Excelsior and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Granoso and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, flood plain

Guijarral and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 2 to 5 percent

Landform: Fan remnant

Vineland and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Flood plain

**352—Posochanet-Posochanet, partially reclaimed,
association, 0 to 1 percent slopes**

Map unit setting

*General location: South of the Kern River, near the edge of the Buena Vista Lake Bed
in the south end of the San Joaquin Valley*

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 285 to 385 feet (88 to 118 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Posochanet and similar soils—70 percent

Posochanet, partially reclaimed, and similar soils—20 percent

Minor components—10 percent

Characteristics of Posochanet and similar soils

Slope: 0 to 1 percent

Landform: Fan skirt

Parent material: Alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.8 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Moderately well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 4e-6

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 1 inch; silt loam

Bw—1 to 6 inches; silty clay loam

Bnyz1—6 to 16 inches; silty clay loam

Bnyz2—16 to 26 inches; clay loam

Bnyz3—26 to 41 inches; silty clay

Bnyz4—41 to 54 inches; clay loam

Bnyz5—54 to 58 inches; loam

Bnyz6—58 to 62 inches; silt loam

Characteristics of Posochanet, partially reclaimed, and similar soils

Slope: 0 to 1 percent

Landform: Rim of basin floor

Parent material: Alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.8 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 3e-6

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 1 inch; silt loam

Bw—1 to 6 inches; silty clay loam

Bnyz1—6 to 16 inches; silty clay loam

Bnyz2—16 to 26 inches; clay loam

Bnyz3—26 to 41 inches; silty clay

Bnyz4—41 to 54 inches; clay loam

Bnyz5—54 to 58 inches; loam

Bnyz6—58 to 62 inches; silt loam

Minor components

Bakersfield and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Flood plain

Buttonwillow and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Basin floor

Playa

Percentage of component in the map unit: About 2 percent

Slope: 0 to 1 percent

Landform: Basin-floor remnant

Vineland and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 1 percent

Landform: Flood plain

360—Wheelridge gravelly loamy sand, 0 to 2 percent slopes

Map unit setting

General location: Near the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 895 to 2,170 feet (274 to 662 meters)

Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Wheelridge and similar soils—85 percent

Minor components—15 percent

Characteristics of Wheelridge and similar soils

Slope: 0 to 2 percent

Landform: Fan remnant

Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 5 to 50 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 3.6 inches (low)

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Very low
Current water table: None noted
Natural drainage class: Somewhat excessively drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 4s-4
Land capability classification (nonirrigated areas): 7s
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap—0 to 7 inches; gravelly loamy sand
A—7 to 13 inches; gravelly loamy sand
Bk1—13 to 27 inches; gravelly loamy sand
Bk2—27 to 44 inches; cobbly loamy sand
2Bk3—44 to 65 inches; extremely gravelly sand

Minor components

Excelsior and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Alluvial fan

Vineland and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Flood plain

Granoso and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

Kimberlina and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

Guijarral and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 2 percent
Landform: Fan remnant

Excelsior and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 2 percent
Landform: Alluvial fan

370—Whitewolf loamy sand, 0 to 2 percent slopes

Map unit setting

General location: East of U.S. Highway 99 in the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley

Soil Survey of Kern County, California, Southwest Part

Elevation: 490 to 875 feet (150 to 268 meters)
Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)
Mean annual air temperature: 64 degrees F (18 degrees C)
Frost-free period: 200 to 300 days

Map unit composition

Whitewolf and similar soils—85 percent
Minor components—15 percent

Characteristics of Whitewolf and similar soils

Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain
Parent material: Alluvium derived from granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Very low
Current water table: None noted
Natural drainage class: Somewhat excessively drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3s-4
Land capability classification (nonirrigated areas): 7s
Farmland classification: Farmland of statewide importance

Representative profile

Ap—0 to 11 inches; loamy sand
C—11 to 65 inches; loamy coarse sand

Minor components

Excelsior and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 2 percent
Landform: Alluvial fan

Kimberlina and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

Granoso and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

Guijarral and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 2 percent
Landform: Fan remnant

Milagro and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent
Landform: Alluvial fan, fan skirt

Wasco and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, flood plain

371—Whitewolf loamy sand, 2 to 5 percent slopes

Map unit setting

General location: East of U.S. Highway 99 in the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 880 to 1,450 feet (269 to 443 meters)
Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Whitewolf and similar soils—85 percent
Minor components—15 percent

Characteristics of Whitewolf and similar soils

Slope: 2 to 5 percent
Landform: Alluvial fan, flood plain
Parent material: Alluvium derived from granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: Rare
Present annual ponding: None
Surface runoff class: Very low
Current water table: None noted
Natural drainage class: Somewhat excessively drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3s-4
Land capability classification (nonirrigated areas): 7e
Farmland classification: Farmland of statewide importance

Representative profile

Ap—0 to 11 inches; loamy sand
C—11 to 65 inches; loamy coarse sand

Minor components

Excelsior and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 1 to 5 percent
Landform: Alluvial fan

Kimberlina and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 1 to 5 percent

Landform: Alluvial fan, flood plain

Granoso and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 1 to 5 percent

Landform: Alluvial fan, flood plain

Guijarral and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 1 to 5 percent

Landform: Fan remnant

Milagro and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 1 to 5 percent

Landform: Alluvial fan, fan skirt

Wasco and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 1 to 5 percent

Landform: Alluvial fan, flood plain

380—Zalvidea sandy loam, partially drained, 0 to 2 percent slopes

Map unit setting

General location: South of the Kern River and northeast of the Buena Vista Lake Bed in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 285 to 295 feet (87 to 91 meters)

Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)

Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Zalvidea, partially drained, and similar soils—85 percent

Minor components—15 percent

Characteristics of Zalvidea, partially drained, and similar soils

Slope: 0 to 2 percent

Landform: Basin floor, fan skirt

Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare
Present annual ponding: Rare
Surface runoff class: Low
Current water table: Present
Natural drainage class: Somewhat poorly drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-4
Land capability classification (nonirrigated areas): 7s
Farmland classification: Farmland of statewide importance

Representative profile

Ap—0 to 8 inches; sandy loam
By1—8 to 23 inches; sandy loam
By2—23 to 27 inches; sandy loam
By3—27 to 37 inches; sandy loam
BCy—37 to 52 inches; fine sandy loam
2C—52 to 65 inches; stratified sand to silt loam
3C—65 to 69 inches; stratified sand to silt loam

Minor components

Copus and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 2 percent
Landform: Basin floor

Buttonwillow and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 0 to 2 percent
Landform: Basin floor

Oldriver and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Basin floor

Tennco and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 1 percent
Landform: Nonburied fan remnant

381—Zalvidea sandy clay loam, partially drained, 0 to 1 percent slopes

Map unit setting

General location: South of the Kern River and northeast of the Buena Vista Lake Bed in the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 285 to 295 feet (87 to 91 meters)
Mean annual precipitation: 5 to 6 inches (127 to 152 millimeters)
Mean annual air temperature: 62 to 65 degrees F (17 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Zalvidea, partially drained, and similar soils—85 percent

Minor components—15 percent

Characteristics of Zalvidea, partially drained, and similar soils

Slope: 0 to 1 percent

Landform: Basin floor, fan skirt

Parent material: Lacustrine deposits over alluvium derived from rocks of mixed mineralogy

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Altered hydrology: This soil formerly had a high water table and was frequently flooded. It is now artificially drained and partially protected from flooding by upstream reservoirs, levees, and water diversions.

Present annual flooding: Rare

Present annual ponding: Rare

Surface runoff class: Negligible

Current water table: Present

Natural drainage class: Somewhat poorly drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2s-4

Land capability classification (nonirrigated areas): 7s

Farmland classification: Farmland of statewide importance

Representative profile

Ap—0 to 8 inches; sandy clay loam

By1—8 to 23 inches; sandy loam

By2—23 to 27 inches; sandy loam

By3—27 to 37 inches; sandy loam

BCy—37 to 52 inches; fine sandy loam

2C—52 to 65 inches; stratified sand to silt loam

3C—65 to 69 inches; stratified sand to silt loam

Minor components

Copus and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Basin floor

Buttonwillow and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Basin floor

Oldriver and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent

Landform: Basin floor

Tennco and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 1 percent
Landform: Nonburied fan remnant

389—Xerofluvents-Haploxerepts-Riverwash complex, 0 to 15 percent slopes

Map unit setting

General location: Near the south end of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Valley
Elevation: 950 to 3,940 feet (291 to 1,201 meters)
Mean annual precipitation: 8 to 12 inches (203 to 305 millimeters)
Mean annual air temperature: 60 to 63 degrees F (16 to 17 degrees C)
Frost-free period: 200 to 260 days

Map unit composition

Xerofluvents and similar soils—30 percent
Haploxerepts and similar soils—30 percent
Riverwash—15 percent
Minor components—25 percent

Characteristics of Xerofluvents and similar soils

Slope: 0 to 15 percent
Landform: Flood plain
Parent material: Alluvium derived from granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 15 to 40 percent by coarse, subrounded gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 3.0 inches (low)

Selected hydrologic properties

Present annual flooding: Occasional
Present annual ponding: None
Surface runoff class: Medium
Current water table: None noted
Natural drainage class: Somewhat excessively drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 4e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; gravelly sandy loam
C1—4 to 19 inches; extremely gravelly loamy sand
C2—19 to 31 inches; gravelly sand
C3—31 to 40 inches; extremely gravelly loamy sand
C4—40 to 53 inches; gravelly sand
C5—53 to 62 inches; gravelly sandy loam

Characteristics of Haploxerepts and similar soils

Slope: 0 to 15 percent
Landform: Stream terrace

Soil Survey of Kern County, California, Southwest Part

Parent material: Alluvium derived from rocks of mixed mineralogy

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 20 to 60 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.8 inches (moderate)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 7 inches; gravelly sandy loam

Bk1—7 to 20 inches; gravelly sandy loam

Bk2—20 to 41 inches; gravelly sandy loam

Bk3—41 to 60 inches; gravelly sandy loam

Characteristics of Riverwash

Slope: 0 to 15 percent

Landform: Channel, flood plain

Kind of material: Alluvium derived from mixed sources

Percentage of the surface covered by rock fragments: 20 to 60 percent by coarse, subrounded gravel

Restrictive feature: None noted

Selected hydrologic properties

Present annual flooding: Frequent

Present annual ponding: None

Surface runoff class: Low

Current water table: Present

Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Oxyaquic Haploxerolls and similar soils

Percentage of component in the map unit: About 8 percent

Slope: 0 to 15 percent

Landform: Channel, flood plain

Pleito and similar soils

Percentage of component in the map unit: About 8 percent

Slope: 0 to 15 percent

Landform: Fan remnant

Badland

Percentage of component in the map unit: About 5 percent

Slope: 0 to 50 percent

Landform: Channel, flood plain

Fluvaquents and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 10 percent

Landform: Channel, flood plain

390—Pleito sandy clay loam, 0 to 2 percent slopes

Map unit setting

General location: North of the Transverse Range in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 1,080 to 1,665 feet (330 to 508 meters)

Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Pleito and similar soils—85 percent

Minor components—15 percent

Characteristics of Pleito and similar soils

Slope: 0 to 2 percent

Landform: Fan remnant

Parent material: Alluvium derived from mixed sources

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.6 inches (low)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1

Land capability classification (nonirrigated areas): 4s

Farmland classification: Prime farmland if irrigated

Representative profile

Ap1—0 to 4 inches; sandy clay loam

Ap2—4 to 8 inches; sandy clay loam

Bw—8 to 18 inches; sandy clay loam

Bk1—18 to 25 inches; sandy clay loam

Bk2—25 to 32 inches; gravelly sandy clay loam

Bk3—32 to 46 inches; gravelly sandy clay loam

Bk4—46 to 56 inches; gravelly sandy clay loam
Bk5—56 to 64 inches; gravelly sandy clay loam
2Btk—64 to 80 inches; gravelly sandy clay loam

Minor components

Pleito sandy loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 5 to 9 percent

Landform: Fan remnant

Hesperia and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Xerofluvents and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Flood plain, stream terrace

Xeric Torriorthents and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 10 percent

Landform: Escarpment, fan remnant, stream terrace

391—Pleito sandy clay loam, 2 to 5 percent slopes

Map unit setting

General location: South edge of the San Joaquin Valley and eastern edge of the Cuyama Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills, valleys

Elevation: 950 to 3,940 feet (291 to 1,201 meters)

Mean annual precipitation: 6 to 12 inches (152 to 305 millimeters)

Mean annual air temperature: 59 to 64 degrees F (15 to 18 degrees C)

Frost-free period: 180 to 300 days

Map unit composition

Pleito similar soils—80 percent

Minor components—20 percent

Characteristics of Pleito and similar soils

Slope: 2 to 5 percent

Landform: Fan remnant

Parent material: Alluvium derived from mixed sources

Typical vegetation: Grasses and forbs

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.6 inches (low)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1

Land capability classification (nonirrigated areas): 4e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap1—0 to 4 inches; sandy clay loam

Ap2—4 to 8 inches; sandy clay loam

Bw—8 to 18 inches; sandy clay loam

Bk1—18 to 25 inches; sandy clay loam

Bk2—25 to 32 inches; gravelly sandy clay loam

Bk3—32 to 46 inches; gravelly sandy clay loam

Bk4—46 to 56 inches; gravelly sandy clay loam

Bk5—56 to 64 inches; gravelly sandy clay loam

2Btk—64 to 80 inches; gravelly sandy clay loam

Minor components

Pleito sandy loam and similar soils

Percentage of component in the map unit: About 7 percent

Slope: 5 to 9 percent

Landform: Fan remnant

Hesperia and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Xerofluvents and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Flood plain, stream terrace

Xeric Torriorthents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 10 percent

Landform: Escarpment, fan remnant, stream terrace

Riverwash

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Channel

392—Pleito sandy clay loam, 5 to 9 percent slopes

Map unit setting

General location: Near the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 1,030 to 3,765 feet (314 to 1,148 meters)

Mean annual precipitation: 8 to 12 inches (205 to 300 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 225 to 300 days

Map unit composition

Pleito and similar soils—85 percent
Minor components—15 percent

Characteristics of Pleito and similar soils

Slope: 5 to 9 percent

Landform: Fan remnant

Parent material: Alluvium derived from mixed sources

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.6 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1

Land capability classification (nonirrigated areas): 4e

Farmland classification: Prime farmland if irrigated

Representative profile

Ap1—0 to 4 inches; sandy clay loam

Ap2—4 to 8 inches; sandy clay loam

Bw—8 to 18 inches; sandy clay loam

Bk1—18 to 25 inches; sandy clay loam

Bk2—25 to 32 inches; gravelly sandy clay loam

Bk3—32 to 46 inches; gravelly sandy clay loam

Bk4—46 to 56 inches; gravelly sandy clay loam

Bk5—56 to 64 inches; gravelly sandy clay loam

2Btk—64 to 80 inches; gravelly sandy clay loam

Minor components

Calleguas, moderately steep, and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 30 percent

Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 15 percent

Landform: Mountain slope

Xerofluvents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Flood plain, stream terrace

Xeric Torriorthents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 10 to 30 percent

Landform: Escarpment, fan remnant, stream terrace

Unnamed flood-plain soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 2 percent

Landform: Drainageway, flood plain

393—Pleito sandy clay loam, 9 to 30 percent slopes

Map unit setting

General location: Near the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 675 to 3,995 feet (206 to 1,218 meters)

Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 225 to 300 days

Map unit composition

Pleito and similar soils—85 percent

Minor components—15 percent

Characteristics of Pleito and similar soils

Slope: 9 to 30 percent

Landform: Fan remnant

Parent material: Alluvium derived from mixed sources

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.6 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 4e-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap1—0 to 4 inches; sandy clay loam

Ap2—4 to 8 inches; sandy clay loam

Bw—8 to 18 inches; sandy clay loam

Bk1—18 to 25 inches; sandy clay loam

Bk2—25 to 32 inches; gravelly sandy clay loam

Bk3—32 to 46 inches; gravelly sandy clay loam

Bk4—46 to 56 inches; gravelly sandy clay loam

Bk5—56 to 64 inches; gravelly sandy clay loam

2Btk—64 to 80 inches; gravelly sandy clay loam

Minor components

Harrisranch and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 2 to 15 percent

Landform: Mountain slope

Xeric Torriorthents and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 5 to 30 percent

Landform: Escarpment, fan remnant, stream terrace

Xerofluvents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Flood plain, stream terrace

Ballinger and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 25 percent

Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 9 percent

Landform: Flood plain, seep

**394—Pleito-Xeric Torriorthents, very gravelly,
association, 15 to 100 percent slopes**

Map unit setting

General location: North of the Transverse Range in the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valleys, hills

Elevation: 1,325 to 2,280 feet (405 to 696 meters)

Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 200 to 275 days

Map unit composition

Pleito and similar soils—45 percent

Xeric Torriorthents, very gravelly, and similar soils—40 percent

Minor components—15 percent

Characteristics of Pleito and similar soils

Slope: 15 to 60 percent

Landform: Fan remnant

Parent material: Alluvium derived from mixed sources

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.6 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap1—0 to 4 inches; sandy clay loam

Ap2—4 to 8 inches; sandy clay loam

Bw—8 to 18 inches; sandy clay loam

Bk1—18 to 25 inches; sandy clay loam

Bk2—25 to 32 inches; gravelly sandy clay loam

Bk3—32 to 46 inches; gravelly sandy clay loam

Bk4—46 to 56 inches; gravelly sandy clay loam

Bk5—56 to 64 inches; gravelly sandy clay loam

2Btk—64 to 80 inches; gravelly sandy clay loam

Characteristics of Xeric Torriorthents, very gravelly, and similar soils

Slope: 15 to 100 percent

Landform: Escarpment on hillslope

Parent material: Residuum weathered from sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 5 to 60 percent by coarse, angular gravel and 0 to 10 percent by angular cobbles

Depth to a restrictive feature: Lithic bedrock—20 to 36 inches

Available water capacity to a depth of 60 inches: About 1.4 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; very gravelly sandy loam

C1—2 to 7 inches; very gravelly sandy loam

C2—7 to 26 inches; very gravelly sandy loam

R—26 to 36 inches; bedrock

Minor components

Harrisranch and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 25 percent
Landform: Mountain slope

Calleguas and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 15 to 30 percent
Landform: Hillslope

Xerofluvents and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 2 to 10 percent
Landform: Flood plain, stream terrace

Ballinger and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 15 to 60 percent
Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 2 to 15 percent
Landform: Drainageway

395—Pleito-Emidio-Loslobos association, 15 to 75 percent slopes

Map unit setting

General location: San Emidio Ranch to the Grapevine area in the south part of the San Joaquin Valley
MLRA: 15—Central California Coast Range
Landscape: Hills
Elevation: 1,365 to 4,285 feet (417 to 1,307 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 59 to 63 degrees F (15 to 17 degrees C)
Frost-free period: 200 to 250 days

Map unit composition

Pleito and similar soils—50 percent
Emidio and similar soils—20 percent
Loslobos and similar soils—15 percent
Minor components—15 percent

Characteristics of Pleito and similar soils

Slope: 15 to 50 percent
Landform: Stream terrace
Parent material: Alluvium derived from mixed sources
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subrounded gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 4.6 inches (low)
Selected hydrologic properties
Present annual flooding: None
Present annual ponding: None
Surface runoff class: High

Soil Survey of Kern County, California, Southwest Part

Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap1—0 to 4 inches; sandy clay loam
Ap2—4 to 8 inches; sandy clay loam
Bw—8 to 18 inches; sandy clay loam
Bk1—18 to 25 inches; sandy clay loam
Bk2—25 to 32 inches; gravelly sandy clay loam
Bk3—32 to 46 inches; gravelly sandy clay loam
Bk4—46 to 56 inches; gravelly sandy clay loam
Bk5—56 to 64 inches; gravelly sandy clay loam
2Btk—64 to 80 inches; gravelly sandy clay loam

Characteristics of Emidio and similar soils

Slope: 15 to 30 percent
Landform: Bench, hillslope
Parent material: Unconsolidated alluvium and/or colluvium derived from mixed rock sources
Typical vegetation: Annual grasses and forbs
Percentage of the surface covered by rock fragments: 5 to 15 percent by angular cobbles and 0 to 5 percent by coarse, angular gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 10.1 inches (very high)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Low
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 4e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; loam
A2—4 to 16 inches; loam
Bw1—16 to 32 inches; sandy clay loam
Bw2—32 to 41 inches; clay loam
Bky1—41 to 49 inches; loam
Bky2—49 to 65 inches; loam

Characteristics of Loslobos and similar soils

Slope: 15 to 75 percent
Landform: Hillslope
Parent material: Unconsolidated alluvium derived from mixed rock sources

Soil Survey of Kern County, California, Southwest Part

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 10 to 20 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.6 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 2 inches; sandy loam

A2—2 to 14 inches; sandy loam

A3—14 to 25 inches; sandy loam

Bk1—25 to 41 inches; gravelly sandy loam

Bk2—41 to 54 inches; gravelly sandy loam

Bk3—54 to 60 inches; gravelly sandy loam

Minor components

Calleguas, moderately steep, and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 15 to 30 percent

Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 15 percent

Landform: Mountain slope

Xerofluvents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Flood plain, stream terrace

Ballinger and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 60 percent

Landform: Hillslope

Xeric Torriorthents and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 50 to 100 percent

Landform: Escarpment, fan remnant, stream terrace

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 75 percent

Landform: Depression, drainageway, seep

396—Pleito-Loslobos association, 15 to 75 percent slopes

Map unit setting

General location: From the Grapevine area to San Emidio Ranch in the south part of the San Joaquin Valley

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 720 to 4,300 feet (220 to 1,312 meters)

Mean annual precipitation: 9 to 11 inches (229 to 279 millimeters)

Mean annual air temperature: 60 to 63 degrees F (16 to 17 degrees C)

Frost-free period: 200 to 250 days

Map unit composition

Pleito and similar soils—60 percent

Loslobos and similar soils—25 percent

Minor components—15 percent

Characteristics of Pleito and similar soils

Slope: 15 to 50 percent

Landform: Stream terrace

Parent material: Alluvium derived from mixed sources

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.6 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap1—0 to 4 inches; sandy clay loam

Ap2—4 to 8 inches; sandy clay loam

Bw—8 to 18 inches; sandy clay loam

Bk1—18 to 25 inches; sandy clay loam

Bk2—25 to 32 inches; gravelly sandy clay loam

Bk3—32 to 46 inches; gravelly sandy clay loam

Bk4—46 to 56 inches; gravelly sandy clay loam

Bk5—56 to 64 inches; gravelly sandy clay loam

2Btk—64 to 80 inches; gravelly sandy clay loam

Characteristics of Loslobos and similar soils

Slope: 30 to 75 percent

Landform: Hillslope

Soil Survey of Kern County, California, Southwest Part

Parent material: Unconsolidated alluvium derived from mixed rock sources

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 10 to 20 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.6 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 2 inches; sandy loam

A2—2 to 14 inches; sandy loam

A3—14 to 25 inches; sandy loam

Bk1—25 to 41 inches; gravelly sandy loam

Bk2—41 to 54 inches; gravelly sandy loam

Bk3—54 to 60 inches; gravelly sandy loam

Minor components

Calleguas, moderately steep, and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 15 to 30 percent

Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 2 to 15 percent

Landform: Mountain slope

Xerofluvents and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Flood plain, stream terrace

Ballinger and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 60 percent

Landform: Hillslope

Xeric Torriorthents and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 50 to 100 percent

Landform: Escarpment, fan remnant, stream terrace

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 75 percent

Landform: Drainageway, seep

398—Calcic Haploxerepts-Calcic Pachic Argixerolls, fine-Xerorthents, shallow, complex, 30 to 75 percent slopes

Map unit setting

General location: The Transverse Range south of the San Joaquin Valley

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 1,740 to 4,080 feet (531 to 1,244 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 60 to 63 degrees F (16 to 17 degrees C)

Frost-free period: 200 to 250 days

Map unit composition

Calcic Haploxerepts and similar soils—30 percent

Calcic Pachic Argixerolls, fine, and similar soils—25 percent

Xerorthents, shallow, and similar soils—20 percent

Minor components—25 percent

Characteristics of Calcic Haploxerepts and similar soils

Slope: 30 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 9.6 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; clay loam

Bk1—4 to 9 inches; clay loam

Bk2—9 to 18 inches; gravelly clay loam

Bk3—18 to 25 inches; clay loam

Cy—25 to 37 inches; clay loam

C—37 to 60 inches; loam

Characteristics of Calcic Pachic Argixerolls, fine, and similar soils

Slope: 30 to 75 percent

Landform: Uplifted terrace

Parent material: Alluvium derived from sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Soil Survey of Kern County, California, Southwest Part

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 8.0 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 6 inches; clay loam

Btk1—6 to 21 inches; clay loam

Btk2—21 to 44 inches; clay loam

Btk3—44 to 56 inches; clay

Bk—56 to 64 inches; clay

Characteristics of Xerorthents, shallow, and similar soils

Slope: 30 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches

Available water capacity to a depth of 60 inches: About 1.8 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 8 inches; sandy clay loam

C—8 to 13 inches; sandy loam

Cr—13 to 23 inches; soft, weathered bedrock

Minor components

Pleito and similar soils

Percentage of component in the map unit: About 11 percent

Slope: 30 to 70 percent

Landform: Fan remnant

Badland

Percentage of component in the map unit: About 8 percent

Slope: 45 to 100 percent

Landform: Hillslope

Oxyaquic Haploxerolls and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 50 percent

Landform: Hillslope, seep

Fluvaquents and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 2 to 10 percent

Landform: Drainageway

400—Loslobos-Xeric Torriorthents, very gravelly-Badlands association, 30 to 50 percent slopes

Map unit setting

General location: From the Grapevine area to San Emidio Ranch near the south end of the San Joaquin Valley

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 515 to 3,730 feet (158 to 1,137 meters)

Mean annual precipitation: 8 to 11 inches (203 to 279 millimeters)

Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 225 to 300 days

Map unit composition

Loslobos and similar soils—35 percent

Xeric Torriorthents, very gravelly, and similar soils—25 percent

Badlands—20 percent

Minor components—20 percent

Characteristics of Loslobos and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Unconsolidated alluvium derived from mixed rock sources

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 10 to 20 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.6 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Soil Survey of Kern County, California, Southwest Part

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 2 inches; sandy loam

A2—2 to 14 inches; sandy loam

A3—14 to 25 inches; sandy loam

Bk1—25 to 41 inches; gravelly sandy loam

Bk2—41 to 54 inches; gravelly sandy loam

Bk3—54 to 60 inches; gravelly sandy loam

Characteristics of Xeric Torriorthents, very gravelly, and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from sedimentary rock

Typical vegetation: Annual grasses and forbs with scattered shrubs

Percentage of the surface covered by rock fragments: 5 to 60 percent by coarse, angular gravel and 0 to 10 percent by angular cobbles

Depth to a restrictive feature: Lithic bedrock—20 to 36 inches

Available water capacity to a depth of 60 inches: About 1.4 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; very gravelly sandy loam

C1—2 to 7 inches; very gravelly sandy loam

C2—7 to 26 inches; very gravelly sandy loam

R—26 to 36 inches; bedrock

Characteristics of Badlands

Slope: 30 to 50 percent

Landform: Hillslope

Kind of material: Alluvium derived from mixed sources

Typical vegetation: None assigned

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Calleguas and similar soils

Percentage of component in the map unit: About 7 percent

Slope: 15 to 30 percent

Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 15 to 30 percent

Landform: Mountain slope

Ballinger and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 60 percent

Landform: Hillslope

Pleito and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 9 to 30 percent

Landform: Fan remnant

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 50 percent

Landform: Drainageway, seep

401—Loslobos loam, 50 to 100 percent slopes

Map unit setting

General location: From the Grapevine area to San Emidio Ranch near the south part of the San Joaquin Valley

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 1,440 to 3,835 feet (439 to 1,170 meters)

Mean annual precipitation: 8 to 11 inches (203 to 279 millimeters)

Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 225 to 300 days

Map unit composition

Loslobos and similar soils—85 percent

Minor components—15 percent

Characteristics of Loslobos and similar soils

Slope: 50 to 100 percent

Landform: Hillslope

Parent material: Unconsolidated alluvium derived from mixed rock sources

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 10 to 20 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.6 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 2 inches; loam
A2—2 to 14 inches; sandy loam
A3—14 to 25 inches; sandy loam
Bk1—25 to 41 inches; gravelly sandy loam
Bk2—41 to 54 inches; gravelly sandy loam
Bk3—54 to 60 inches; gravelly sandy loam

Minor components

Harrisranch and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 15 to 30 percent
Landform: Mountain slope

Badlands

Percentage of component in the map unit: About 3 percent
Slope: 100 to 150 percent
Landform: Hillslope

Calleguas and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 15 to 30 percent
Landform: Hillslope

Pleito and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 9 to 30 percent
Landform: Fan remnant

Ballinger and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 15 to 60 percent
Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 5 to 75 percent
Landform: Drainageway, seep

402—Loslobos-Walong association, 5 to 30 percent slopes

Map unit setting

General location: From the Grapevine area to San Emidio Ranch near the south end of the San Joaquin Valley
MLRA: 18—Sierra Nevada Foothills
Landscape: Mountains, hills

Soil Survey of Kern County, California, Southwest Part

Elevation: 1,605 to 3,785 feet (490 to 1,155 meters)

Mean annual precipitation: 8 to 11 inches (203 to 279 millimeters)

Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 225 to 300 days

Map unit composition

Loslobos and similar soils—40 percent

Walong and similar soils—30 percent

Minor components—30 percent

Characteristics of Loslobos and similar soils

Slope: 5 to 30 percent

Landform: Hillslope

Parent material: Unconsolidated alluvium derived from mixed rock sources

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 10 to 20 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.6 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 2 inches; sandy loam

A2—2 to 14 inches; sandy loam

A3—14 to 25 inches; sandy loam

Bk1—25 to 41 inches; gravelly sandy loam

Bk2—41 to 54 inches; gravelly sandy loam

Bk3—54 to 60 inches; gravelly sandy loam

Characteristics of Walong and similar soils

Slope: 5 to 30 percent

Landform: Bench, mountain slope

Parent material: Residuum weathered from igneous and/or metamorphic rock

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 0 to 25 percent by coarse, subangular gravel; 0 to 15 percent by subangular cobbles; 0 to 15 percent by subrounded stones; and 0 to 15 percent by subrounded boulders

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 1.9 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; very bouldery sandy loam
A2—3 to 12 inches; very bouldery sandy loam
Bw—12 to 29 inches; very bouldery sandy loam
Cr—29 to 39 inches; soft, weathered bedrock

Minor components

Pleito and similar soils

Percentage of component in the map unit: About 7 percent
Slope: 9 to 30 percent
Landform: Fan remnant

Calleguas and similar soils

Percentage of component in the map unit: About 7 percent
Slope: 15 to 30 percent
Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 15 to 30 percent
Landform: Mountain slope

Badlands

Percentage of component in the map unit: About 5 percent
Slope: 100 to 150 percent
Landform: Mountain slope

Balhud and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 5 to 15 percent
Landform: Hillslope

Ballinger and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 15 to 60 percent
Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 30 percent
Landform: Drainageway, seep

403—Loslobos-Calleguas association, 30 to 100 percent slopes

Map unit setting

General location: From the Grapevine area to San Emidio Ranch near the south end of the San Joaquin Valley
MLRA: 15—Central California Coast Range

Soil Survey of Kern County, California, Southwest Part

Landscape: Hills

Elevation: 1,595 to 4,680 feet (487 to 1,427 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 59 to 62 degrees F (15 to 17 degrees C)

Frost-free period: 200 to 250 days

Map unit composition

Loslobos and similar soils—45 percent

Calleguas and similar soils—35 percent

Minor components—20 percent

Characteristics of Loslobos and similar soils

Slope: 30 to 100 percent

Landform: Hillslope

Parent material: Unconsolidated alluvium derived from mixed rock sources

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 10 to 20 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.6 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 2 inches; sandy loam

A2—2 to 14 inches; sandy loam

A3—14 to 25 inches; sandy loam

Bk1—25 to 41 inches; gravelly sandy loam

Bk2—41 to 54 inches; gravelly sandy loam

Bk3—54 to 60 inches; gravelly sandy loam

Characteristics of Calleguas and similar soils

Slope: 30 to 100 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous sandstone and shale

Typical vegetation: Annual grasses, forbs, and shrubs

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches

Available water capacity to a depth of 60 inches: About 2.5 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 7 inches; clay loam
A2—7 to 15 inches; clay loam
Cr—15 to 60 inches; soft, weathered bedrock

Minor components

Harrisranch and similar soils

Percentage of component in the map unit: About 8 percent
Slope: 15 to 30 percent
Landform: Mountain slope

Ballinger and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 15 to 60 percent
Landform: Hillslope

Pleito and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 9 to 30 percent
Landform: Fan remnant

Badlands

Percentage of component in the map unit: About 3 percent
Slope: 20 to 100 percent
Landform: Mountain slope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 5 to 75 percent
Landform: Drainageway, seep

404—Loslobos sandy loam, moist, 40 to 85 percent slopes

Map unit setting

General location: From the Grapevine area to San Emidio Ranch near the south end of the San Joaquin Valley
MLRA: 15—Central California Coast Range
Landscape: Hills
Elevation: 2,960 to 4,440 feet (903 to 1,354 meters)
Mean annual precipitation: 6 to 13 inches (154 to 330 millimeters)
Mean annual air temperature: 59 to 62 degrees F (15 to 17 degrees C)
Frost-free period: 200 to 250 days

Map unit composition

Loslobos, moist, and similar soils—85 percent
Minor components—15 percent

Characteristics of Loslobos, moist, and similar soils

Slope: 40 to 85 percent

Landform: Hillslope

Parent material: Unconsolidated alluvium derived from mixed rock sources

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 10 to 20 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.6 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 2 inches; sandy loam

A2—2 to 14 inches; sandy loam

A3—14 to 25 inches; sandy loam

Bk1—25 to 41 inches; gravelly sandy loam

Bk2—41 to 54 inches; gravelly sandy loam

Bk3—54 to 60 inches; gravelly sandy loam

Minor components

Harrisranch and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 40 to 75 percent

Landform: Mountain slope

Pleito and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 40 to 50 percent

Landform: Fan remnant

Calleguas and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 40 to 75 percent

Landform: Hillslope

Badlands

Percentage of component in the map unit: About 2 percent

Slope: 40 to 85 percent

Landform: Mountain slope

Ballinger and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 40 to 75 percent

Landform: Hillslope

430—Littlesignal-Cochora association, 15 to 30 percent slopes

Map unit setting

General location: Temblor Range and foothills

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 795 to 1,685 feet (243 to 514 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Littlesignal and similar soils—45 percent

Cochora and similar soils—40 percent

Minor components—15 percent

Characteristics of Littlesignal and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: Annual grasses and forbs with some desert shrubs

Percentage of the surface covered by rock fragments: 0 percent

Depth to a restrictive feature: Paralithic bedrock—40 to 60 inches

Available water capacity to a depth of 60 inches: About 9.8 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; loam

A2—3 to 11 inches; loam

Bw—11 to 20 inches; sandy loam

Bk1—20 to 25 inches; silt loam

Bk2—25 to 35 inches; silt loam

2Bky—35 to 52 inches; extremely paragravelly silt loam

2Cr—52 to 60 inches; bedrock

Characteristics of Cochora and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from sedimentary rock

Typical vegetation: Annual grasses and forbs with some desert shrubs

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, angular gravel

Soil Survey of Kern County, California, Southwest Part

Depth to a restrictive feature: Paralithic bedrock—14 to 20 inches
Available water capacity to a depth of 60 inches: About 2.4 inches (very low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam
Bw—2 to 9 inches; loam
C—9 to 15 inches; sandy loam
Cr—15 to 25 inches; soft, weathered bedrock

Minor components

Cochora and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 9 to 15 percent
Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 4 percent
Slope: 30 to 75 percent
Landform: Hillslope

Littlesignal and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 9 to 15 percent
Landform: Hillslope

Ballinger and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 15 to 30 percent
Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 2 to 30 percent
Landform: Seep

431—Littlesignal-Cochora association, 30 to 50 percent slopes

Map unit setting

General location: Temblor Range and foothills
MLRA: 15—Central California Coast Range
Landscape: Hills
Elevation: 845 to 2,950 feet (259 to 900 meters)
Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Little signal and similar soils—50 percent

Cochora and similar soils—35 percent

Minor components—15 percent

Characteristics of Little signal and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: Annual grasses and forbs with some desert shrubs

Percentage of the surface covered by rock fragments: 0 percent

Depth to a restrictive feature: Paralithic bedrock—40 to 60 inches

Available water capacity to a depth of 60 inches: About 9.8 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; loam

A2—3 to 11 inches; loam

Bw—11 to 20 inches; sandy loam

Bk1—20 to 25 inches; silt loam

Bk2—25 to 35 inches; silt loam

2Bky—35 to 52 inches; extremely paragravelly silt loam

2Cr—52 to 60 inches; bedrock

Characteristics of Cochora and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from sedimentary rock

Typical vegetation: Annual grasses and forbs with some desert shrubs

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—14 to 20 inches

Available water capacity to a depth of 60 inches: About 2.4 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam

Bw—2 to 9 inches; loam

C—9 to 15 inches; sandy loam

Cr—15 to 25 inches; soft, weathered bedrock

Minor components

Cochora and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 9 to 15 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 4 percent

Slope: 30 to 75 percent

Landform: Hillslope

Littlesignal and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 9 to 15 percent

Landform: Hillslope

Ballinger and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 50 percent

Landform: Flood plain

432—Littlesignal-Badlands-Cochora association, 15 to 75 percent slopes

Map unit setting

General location: Temblor Range and foothills

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 740 to 3,090 feet (227 to 942 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Littlesignal and similar soils—45 percent

Badlands—25 percent

Cochora and similar soils—20 percent

Minor components—10 percent

Characteristics of Littlesignal and similar soils

Slope: 15 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: Annual grasses and forbs with some desert shrubs

Percentage of the surface covered by rock fragments: 0 percent

Depth to a restrictive feature: Paralithic bedrock—40 to 60 inches

Available water capacity to a depth of 60 inches: About 9.8 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; loam

A2—3 to 11 inches; loam

Bw—11 to 20 inches; sandy loam

Bk1—20 to 25 inches; silt loam

Bk2—25 to 35 inches; silt loam

2Bky—35 to 52 inches; extremely paragravelly silt loam

2Cr—52 to 60 inches; bedrock

Characteristics of Badlands

Slope: 50 to 75 percent

Landform: Hillslope

Kind of material: Unconsolidated and semiconsolidated mixed lacustrine and marine deposits

Typical vegetation: None assigned

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Characteristics of Cochora and similar soils

Slope: 15 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from sedimentary rock

Typical vegetation: Annual grasses and forbs with some desert shrubs

Soil Survey of Kern County, California, Southwest Part

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—14 to 20 inches

Available water capacity to a depth of 60 inches: About 2.4 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam

Bw—2 to 9 inches; loam

C—9 to 15 inches; sandy loam

Cr—15 to 25 inches; soft, weathered bedrock

Minor components

Pyxo and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 15 to 50 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 3 percent

Slope: 30 to 75 percent

Landform: Hillslope

Ballinger and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 75 percent

Landform: Drainageway

440—Elkhills-Pyxo association, 15 to 50 percent slopes

Map unit setting

General location: Temblor Range and foothills

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 980 to 1,820 feet (299 to 556 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Elkhills and similar soils—50 percent
Pyxo and similar soils—35 percent
Minor components—15 percent

Characteristics of Elkhills and similar soils

Slope: 15 to 50 percent
Landform: Hillslope
Parent material: Alluvium derived from sedimentary and/or granitoid rock
Typical vegetation: Annual grasses, forbs, and scattered shrubs
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Medium
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam
A2—4 to 10 inches; sandy loam
C1—10 to 27 inches; sandy loam
C2—27 to 34 inches; sandy loam
C3—34 to 52 inches; coarse sandy loam
C4—52 to 65 inches; coarse sandy loam

Characteristics of Pyxo and similar soils

Slope: 15 to 50 percent
Landform: Hillslope
Parent material: Residuum weathered from soft, calcareous sandstone or shale
Typical vegetation: Annual grasses, forbs, and scattered shrubs
Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel
Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches
Available water capacity to a depth of 60 inches: About 4.8 inches (low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

- A—0 to 5 inches; loam
- Bk1—5 to 12 inches; loam
- Bk2—12 to 22 inches; loam
- Ck—22 to 30 inches; sandy loam
- Cr—30 to 40 inches; soft, weathered bedrock

Minor components

Hillbrick and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 15 to 30 percent
Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 15 to 50 percent
Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 2 percent
Slope: 30 to 75 percent
Landform: Hillslope

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 0 to 5 percent
Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 15 to 30 percent
Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 15 to 75 percent
Landform: Hillslope

441—Sodic Haplocambids, thick, 9 to 30 percent slopes

Map unit setting

General location: The Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Hills
Elevation: 550 to 1,545 feet (169 to 472 meters)
Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)
Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)
Frost-free period: 240 to 300 days

Map unit composition

Sodic Haplocambids, thick, and similar soils—60 percent
Minor components—40 percent

Characteristics of Sodic Haplocambids, thick, and similar soils

Slope: 9 to 30 percent
Landform: Hillslope

Soil Survey of Kern County, California, Southwest Part

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 2.5 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; loam

Bw—3 to 12 inches; loam

Bk—12 to 18 inches; loam

Bknz1—18 to 24 inches; silt loam

Bknz2—24 to 27 inches; fine sandy loam

Bnyz—27 to 42 inches; silty clay

Bnz1—42 to 54 inches; sandy clay loam

Bnz2—54 to 61 inches; sandy clay loam

Minor components

Hillbrick and similar soils

Percentage of component in the map unit: About 10 percent

Slope: 9 to 30 percent

Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 10 percent

Slope: 9 to 50 percent

Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 9 to 50 percent

Landform: Hillslope

Ballinger and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 30 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 15 to 30 percent

Landform: Hillslope

Torriorthents, weakly cemented substratum, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Hillslope

Urban land

Percentage of component in the map unit: About 3 percent

Slope: 9 to 30 percent

Landform: Hillslope

442—Elkhills sandy loam, 5 to 15 percent slopes

Map unit setting

General location: The Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 295 to 1,265 feet (91 to 386 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Elkhills and similar soils—80 percent

Minor components—20 percent

Characteristics of Elkhills and similar soils

Slope: 5 to 15 percent

Landform: Hillslope

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam

A2—4 to 10 inches; sandy loam

C1—10 to 27 inches; sandy loam

C2—27 to 34 inches; sandy loam

C3—34 to 52 inches; coarse sandy loam

C4—52 to 65 inches; coarse sandy loam

Minor components

Hillbrick and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 5 to 15 percent

Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 5 to 15 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 3 percent

Slope: 5 to 15 percent

Landform: Hillslope

Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 5 to 15 percent

Landform: Hillslope

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 15 percent

Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 15 percent

Landform: Hillslope

Elkhills, saline-sodic, and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 15 percent

Landform: Hillslope

443—Elkhills-Badlands complex, 30 to 50 percent slopes

Map unit setting

General location: The Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 875 to 1,655 feet (268 to 505 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Elkhills and similar soils—40 percent

Badlands—40 percent

Minor components—20 percent

Characteristics of Elkhills and similar soils

Slope: 30 to 50 percent
Landform: Hillslope
Parent material: Alluvium derived from sedimentary and/or granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Medium
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam
A2—4 to 10 inches; sandy loam
C1—10 to 27 inches; sandy loam
C2—27 to 34 inches; sandy loam
C3—34 to 52 inches; coarse sandy loam
C4—52 to 65 inches; coarse sandy loam

Characteristics of Badlands

Slope: 30 to 50 percent
Landform: Hillslope
Kind of material: Soft sandstone and shale
Typical vegetation: None assigned

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 8
Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Hillbrick and similar soils

Percentage of component in the map unit: About 7 percent
Slope: 15 to 30 percent
Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 50 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 2 percent

Slope: 30 to 75 percent

Landform: Hillslope

Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 5 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 15 to 75 percent

Landform: Hillslope

Ballinger and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 15 to 30 percent

Landform: Hillslope

444—Elkhills sandy loam, 15 to 30 percent slopes

Map unit setting

General location: The Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 360 to 1,300 feet (111 to 397 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 64 degrees F (17 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Elkhills and similar soils—90 percent

Minor components—10 percent

Characteristics of Elkhills and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Uplifted alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Soil Survey of Kern County, California, Southwest Part

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam

A2—4 to 10 inches; sandy loam

C1—10 to 27 inches; sandy loam

C2—27 to 34 inches; sandy loam

C3—34 to 52 inches; coarse sandy loam

C4—52 to 65 inches; coarse sandy loam

Minor components

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Hillbrick and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 15 to 30 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 1 percent

Slope: 15 to 30 percent

Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 15 to 30 percent

Landform: Hillslope

Ballinger and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 15 to 30 percent

Landform: Hillslope

445—Sodic Haplocambids, thick-Elkhills complex, 30 to 50 percent slopes

Map unit setting

General location: The Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 470 to 1,170 feet (144 to 357 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Sodic Haplocambids, thick, and similar soils—45 percent

Elkhills and similar soils—40 percent

Minor components—15 percent

Characteristics of Sodic Haplocambids, thick, and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 2.5 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; loam

Bw—3 to 12 inches; loam

Bk—12 to 18 inches; loam

Bknz1—18 to 24 inches; silt loam

Bknz2—24 to 27 inches; fine sandy loam

Bnyz—27 to 42 inches; silty clay

Bnz1—42 to 54 inches; sandy clay loam

Bnz2—54 to 61 inches; sandy clay loam

Characteristics of Elkhills and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Soil Survey of Kern County, California, Southwest Part

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam

A2—4 to 10 inches; sandy loam

C1—10 to 27 inches; sandy loam

C2—27 to 34 inches; sandy loam

C3—34 to 52 inches; coarse sandy loam

C4—52 to 65 inches; coarse sandy loam

Minor components

Pyxo and similar soils

Percentage of component in the map unit: About 7 percent

Slope: 15 to 50 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 2 percent

Slope: 30 to 75 percent

Landform: Hillslope

Torriorthents, thick, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 15 to 75 percent

Landform: Hillslope

Badlands

Percentage of component in the map unit: About 1 percent

Slope: 30 to 50 percent

Landform: Hillslope

451—Beam-Panoza-Hillbrick complex, 30 to 50 percent slopes

Map unit setting

General location: Temblor and La Panza Ranges

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 1,800 to 4,100 feet (549 to 1,250 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Frost-free period: 200 to 250 days

Map unit composition

Beam and similar soils—35 percent

Panoza and similar soils—30 percent

Hillbrick and similar soils—15 percent

Minor components—20 percent

Characteristics of Beam and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from soft, calcareous shale, conglomerate, or sandstone

Typical vegetation: Annual grasses, forbs, and scattered oaks

Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel; 0 to 10 percent by subrounded stones; and 0 to 10 percent by subangular cobbles

Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches

Available water capacity to a depth of 60 inches: About 2.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; fine sandy loam

Bk—4 to 15 inches; fine sandy loam

Cr—15 to 25 inches; soft, weathered bedrock

Characteristics of Panoza and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous sandstone, shale, and/or conglomerate

Typical vegetation: Annual grasses and forbs and scattered shrubs and juniper

Soil Survey of Kern County, California, Southwest Part

Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel; 0 to 15 percent by subrounded stones; and 0 to 20 percent by subangular cobbles

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 6e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 6 inches; loam

Bw—6 to 18 inches; loam

Bk—18 to 24 inches; loam

Cr—24 to 34 inches; soft, weathered bedrock

Characteristics of Hillbrick and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous sandstone and shale

Typical vegetation: Annual grasses and forbs and scattered shrubs

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subangular gravel

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

Available water capacity to a depth of 60 inches: About 3.1 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; loam

C—4 to 15 inches; loam

R—15 to 25 inches; bedrock

Minor components

Badlands

Percentage of component in the map unit: About 3 percent

Slope: 30 to 50 percent

Landform: Hillslope

Bellyspring sandy loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 30 to 50 percent

Landform: Hillslope

Padres sandy loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 9 percent

Landform: Alluvial fan, alluvial flat

Panoza loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 2 percent

Slope: 30 to 50 percent

Landform: Hillslope, mountain slope

San Timoteo sandy loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 30 to 50 percent

Landform: Hillslope

Semper very fine sandy loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 30 to 50 percent

Landform: Mountain slope

Unnamed soil with a stony surface layer and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 30 to 50 percent

Landform: Hills, mountains

Wasioja sandy loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 9 percent

Landform: Fan remnant

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 2 to 50 percent

Landform: Drainageway, seep

460—Geghus-Tecuya association, 9 to 30 percent slopes

Map unit setting

General location: Transverse Range and associated hills

MLRA: 18—Sierra Nevada Foothills

Landscape: Hills

Elevation: 1,350 to 4,135 feet (412 to 1,261 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 200 to 300 days

Map unit composition

Geghus and similar soils—50 percent

Tecuya and similar soils—30 percent

Minor components—20 percent

Characteristics of Geghus and similar soils

Slope: 9 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous shale, sandstone, and/or conglomerate

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 0 to 40 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 10.0 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam

Bt1—2 to 6 inches; loam

Bt2—6 to 15 inches; loam

Btk1—15 to 29 inches; clay loam

Btk2—29 to 44 inches; clay loam

Btk3—44 to 54 inches; clay loam

Btk4—54 to 62 inches; loam

Characteristics of Tecuya and similar soils

Slope: 9 to 15 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous sandstone, shale, and/or conglomerate

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 2 to 15 percent by coarse gravel, 0 to 10 percent by cobbles, 0 to 10 percent by stones, and 0 to 2 percent by boulders

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.6 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; cobbly silt loam

A2—3 to 9 inches; cobbly silt loam

Bk1—9 to 28 inches; very cobbly silt loam

Bk2—28 to 38 inches; very cobbly silt loam

Bk3—38 to 60 inches; extremely cobbly loam

Minor components

Balcom and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 9 to 30 percent

Landform: Hillslope

Xeric Torriorthents and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 9 to 30 percent

Landform: Hillslope

Bitcreek and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 9 to 15 percent

Landform: Hillslope

Loslobos and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 9 to 30 percent

Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 30 percent

Landform: Seep

461—Geghus-Tecuya association, 30 to 75 percent slopes

Map unit setting

General location: Transverse Range and associated hills

MLRA: 18—Sierra Nevada Foothills

Landscape: Mountains, hills

Elevation: 1,380 to 4,840 feet (422 to 1,476 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Geghus and similar soils—50 percent

Tecuya and similar soils—35 percent

Minor components—15 percent

Characteristics of Geghus and similar soils

Slope: 30 to 75 percent

Landform: Mountain slope

Parent material: Residuum weathered from sandstone

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 10.0 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam

Bt1—2 to 6 inches; loam

Bt2—6 to 15 inches; loam

Btk1—15 to 29 inches; clay loam

Btk2—29 to 44 inches; clay loam

Btk3—44 to 54 inches; clay loam

Btk4—54 to 62 inches; loam

Characteristics of Tecuya and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous sandstone, shale, and/or conglomerate

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 10 to 30 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.6 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

- A1—0 to 3 inches; cobbly silt loam
- A2—3 to 9 inches; cobbly silt loam
- Bk1—9 to 28 inches; very cobbly silt loam
- Bk2—28 to 38 inches; very cobbly silt loam
- Bk3—38 to 60 inches; extremely cobbly loam

Minor components

Badlands

Percentage of component in the map unit: About 3 percent
Slope: 50 to 75 percent
Landform: Hillslope

Balhud and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 30 to 75 percent
Landform: Hillslope

Beam and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 30 to 75 percent
Landform: Hillslope

Bitcreek and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 9 to 15 percent
Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 30 to 75 percent
Landform: Mountain slope

Shimmon and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 50 to 75 percent
Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 15 to 75 percent
Landform: Drainageway, seep

462—Geghus-Xeric Torriorthents, very gravelly, association, 30 to 50 percent slopes

Map unit setting

General location: Transverse Range and associated hills
MLRA: 15—Central California Coast Range
Landscape: Mountains, hills
Elevation: 2,125 to 4,060 feet (648 to 1,239 meters)
Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)
Mean annual air temperature: 60 to 62 degrees F (16 to 17 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Geghus and similar soils—55 percent
Xeric Torriorthents, very gravelly, and similar soils—30 percent
Minor components—15 percent

Characteristics of Geghus and similar soils

Slope: 30 to 50 percent
Landform: Mountain slope
Parent material: Residuum weathered from sandstone
Typical vegetation: Annual grasses and forbs
Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel
Depth to a restrictive feature: Lithic bedrock—40 to 50 inches
Available water capacity to a depth of 60 inches: About 7.3 inches (moderate)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: High
Current water table: None noted
Natural drainage class: Moderately well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam
Bt1—2 to 6 inches; loam
Bt2—6 to 15 inches; loam
Btk1—15 to 29 inches; clay loam
Btk2—29 to 44 inches; clay loam
Btk3—44 to 54 inches; clay loam
Btk4—54 to 62 inches; loam

Characteristics of Xeric Torriorthents, very gravelly, and similar soils

Slope: 30 to 50 percent
Landform: Hillslope
Parent material: Residuum weathered from sedimentary rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 5 to 60 percent by coarse, angular gravel and 0 to 10 percent by angular cobbles
Depth to a restrictive feature: Lithic bedrock—20 to 36 inches
Available water capacity to a depth of 60 inches: About 1.4 inches (very low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; very gravelly sandy loam

C1—2 to 7 inches; very gravelly sandy loam

C2—7 to 26 inches; very gravelly sandy loam

R—26 to 36 inches; bedrock

Minor components

Balcom and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 9 to 30 percent

Landform: Hillslope

Xeric Torriorthents and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 9 to 30 percent

Landform: Hillslope

Bitcreek and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 9 to 15 percent

Landform: Hillslope

Loslobos and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 9 to 30 percent

Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 9 to 50 percent

Landform: Drainageway, seep

470—Pyxo-Cochora association, 15 to 30 percent slopes

Map unit setting

General location: Temblor Range near Fellows

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 840 to 2,850 feet (257 to 869 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Pyxo and similar soils—55 percent

Cochora and similar soils—30 percent

Minor components—15 percent

Characteristics of Pyxo and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Soil Survey of Kern County, California, Southwest Part

Parent material: Residuum weathered from soft, calcareous sandstone or shale
Typical vegetation: Annual grasses, forbs, and scattered shrubs
Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel
Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches
Available water capacity to a depth of 60 inches: About 4.8 inches (low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 5 inches; loam
Bk1—5 to 12 inches; loam
Bk2—12 to 22 inches; loam
Ck—22 to 30 inches; sandy loam
Cr—30 to 40 inches; soft, weathered bedrock

Characteristics of Cochora and similar soils

Slope: 15 to 30 percent
Landform: Hillslope
Parent material: Residuum weathered from sandstone and shale
Typical vegetation: Annual grasses and forbs with some desert shrubs
Percentage of the surface covered by rock fragments: 0 to 20 percent by angular gravel
Depth to a restrictive feature: Paralithic bedrock—12 to 20 inches
Available water capacity to a depth of 60 inches: About 2.4 inches (very low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam
Bw—2 to 9 inches; loam
C—9 to 15 inches; sandy loam
Cr—15 to 25 inches; soft, weathered bedrock

Minor components

Cochora loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 9 to 15 percent

Landform: Hillslope

Cochora cobbly loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Hillslope

Pyxo loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 15 percent

Landform: Hillslope

Padres fine sandy loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Rock outcrop

Percentage of component in the map unit: About 2 percent

Slope: 15 to 50 percent

Landform: Hillslope, mountain slope

Pyxo loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 30 to 50 percent

Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 2 to 15 percent

Landform: Drainageway

471—Pyxo-Cochora-Badlands association, 15 to 75 percent slopes

Map unit setting

General location: Temblor Range near Fellows

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 1,020 to 2,940 feet (312 to 897 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Pyxo and similar soils—40 percent

Cochora and similar soils—25 percent

Badlands—15 percent

Minor components—20 percent

Characteristics of Pyxo and similar soils

Slope: 30 to 50 percent

Soil Survey of Kern County, California, Southwest Part

Landform: Hillslope

Parent material: Residuum weathered from shale

Typical vegetation: Annual grasses, forbs, and scattered shrubs

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.6 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 5 inches; loam

Bk1—5 to 12 inches; loam

Bk2—12 to 22 inches; loam

Ck—22 to 30 inches; sandy loam

Cr—30 to 40 inches; soft, weathered bedrock

Characteristics of Cochora and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: Annual grasses and forbs with some desert shrubs

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—12 to 20 inches

Available water capacity to a depth of 60 inches: About 2.4 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam

Bw—2 to 9 inches; loam

C—9 to 15 inches; sandy loam

Cr—15 to 25 inches; soft, weathered bedrock

Characteristics of Badlands

Slope: 50 to 75 percent

Landform: Hillslope

Kind of material: Residuum weathered from soft sandstone and shale

Typical vegetation: Component is barren.

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Polonio clay loam and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 2 to 9 percent

Landform: Alluvial fan

Xeric Torriorthents, gravelly, and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 50 to 75 percent

Landform: Hillslope

Cochora, eroded, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Hillslope

Pyxo, eroded, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 50 percent

Landform: Hillslope

Padres sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Rock outcrop

Percentage of component in the map unit: About 3 percent

Slope: 15 to 75 percent

Landform: Hillslope

472—Pyxo-Kimberlina-Cochora association, 2 to 15 percent slopes

Map unit setting

General location: Temblor Range and hills

MLRA: 15—Central California Coast Range

Landscape: Valleys, hills

Elevation: 1,350 to 2,440 feet (413 to 744 meters)
Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)
Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)
Frost-free period: 240 to 300 days

Map unit composition

Pyxo and similar soils—30 percent
Kimberlina and similar soils—30 percent
Cochora and similar soils—25 percent
Minor components—15 percent

Characteristics of Pyxo and similar soils

Slope: 2 to 15 percent
Landform: Hillslope
Parent material: Residuum weathered from soft, calcareous sandstone or shale
Typical vegetation: Annual grasses, forbs, and scattered shrubs
Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel
Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches
Available water capacity to a depth of 60 inches: About 4.8 inches (low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 5e
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 5 inches; loam
Bk1—5 to 12 inches; loam
Bk2—12 to 22 inches; loam
Ck—22 to 30 inches; sandy loam
Cr—30 to 40 inches; soft, weathered bedrock

Characteristics of Kimberlina and similar soils

Slope: 2 to 15 percent
Landform: Recent alluvial fan
Parent material: Alluvium derived from sandstone and shale
Typical vegetation: Annual grasses and forbs with some desert shrubs
Percentage of the surface covered by rock fragments: 0 to 5 percent by subrounded cobbles and 0 to 50 percent by coarse, subrounded gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 9.4 inches (high)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Low
Current water table: None noted

Soil Survey of Kern County, California, Southwest Part

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 10 inches; fine sandy loam

C1—10 to 19 inches; sandy loam

C2—19 to 28 inches; sandy loam

C3—28 to 45 inches; sandy loam

C4—45 to 60 inches; sandy loam

Characteristics of Cochora and similar soils

Slope: 2 to 15 percent

Landform: Hillslope

Parent material: Residuum weathered from sedimentary rock

Typical vegetation: Annual grasses and forbs with some desert shrubs

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—14 to 20 inches

Available water capacity to a depth of 60 inches: About 2.4 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): 7e

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam

Bw—2 to 9 inches; loam

Cr—9 to 15 inches; soft sandy loam

Cr—15 to 25 inches; soft, weathered bedrock

Minor components

Pyxo, moderately steep, and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 15 to 30 percent

Landform: Hillslope

Elkhills sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 5 to 15 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 3 percent

Slope: 5 to 30 percent

Landform: Hillslope

Welpport loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 5 to 15 percent

Landform: Hillslope

Cochora loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 5 to 9 percent

Landform: Hillslope

480—Pyxo-Elkhills association, 30 to 50 percent slopes

Map unit setting

General location: The Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 1,475 to 1,990 feet (450 to 607 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Pyxo, dry, and similar soils—45 percent

Elkhills and similar soils—35 percent

Minor components—20 percent

Characteristics of Pyxo, dry, and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from soft, calcareous sandstone or shale

Typical vegetation: Shrubs, forbs, and grasses

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.8 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 5 inches; loam

Bk1—5 to 12 inches; loam
Bk2—12 to 22 inches; loam
Ck—22 to 30 inches; sandy loam
Cr—30 to 40 inches; soft, weathered bedrock

Characteristics of Elkhills and similar soils

Slope: 30 to 50 percent
Landform: Hillslope
Parent material: Uplifted alluvium derived from sedimentary and/or granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Medium
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam
A2—4 to 10 inches; sandy loam
C1—10 to 27 inches; sandy loam
C2—27 to 34 inches; sandy loam
C3—34 to 52 inches; coarse sandy loam
C4—52 to 65 inches; coarse sandy loam

Minor components

Hillbrick and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 15 to 30 percent
Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 15 to 50 percent
Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 3 percent
Slope: 30 to 75 percent
Landform: Hillslope

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 0 to 5 percent
Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 75 percent

Landform: Hillslope

490—Padres sandy loam, 2 to 9 percent slopes

Map unit setting

General location: San Juan Valley, Elkhorn Plain, and southern Carrizo Plain

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 1,895 to 2,495 feet (579 to 762 meters)

Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)

Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Frost-free period: 175 to 200 days

Map unit composition

Padres and similar soils—65 percent

Minor components—35 percent

Characteristics of Padres and similar soils

Slope: 2 to 9 percent

Landform: Alluvial fan, alluvial flat

Parent material: Alluvium derived from calcareous sedimentary rock

Typical vegetation: Annual grasses and forbs

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.3 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-1

Land capability classification (nonirrigated areas): 4e

Farmland classification: Prime farmland if irrigated

Representative profile

A1—0 to 3 inches; sandy loam

A2—3 to 16 inches; sandy loam

2Bk—16 to 30 inches; gravelly coarse sandy loam

3Bk1—30 to 38 inches; loam

3Bk2—38 to 46 inches; sandy loam

4Bk—46 to 62 inches; gravelly coarse sandy loam

Minor components

Beam sandy loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 2 to 9 percent

Landform: Hillslope

Hillbrick sandy loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 2 to 9 percent

Landform: Hillslope

Padres sandy loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fan, alluvial flat

Panoza loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 2 to 9 percent

Landform: Hillslope

Polonio loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 2 to 9 percent

Landform: Alluvial fan

Wasioja sandy loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 2 to 9 percent

Landform: Fan remnant

Xerofluvents cobbly loamy sand and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 2 percent

Landform: Flood plain

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 3 percent

Landform: Drainageway

500—Bitcreek sandy clay loam, 2 to 5 percent slopes

Map unit setting

General location: Temblor Range and hills

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 1,180 to 4,310 feet (361 to 1,315 meters)

Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)

Mean annual air temperature: 58 to 63 degrees F (14 to 17 degrees C)

Frost-free period: 180 to 235 days

Map unit composition

Bitcreek and similar soils—85 percent

Minor components—15 percent

Characteristics of Bitcreek and similar soils

Slope: 2 to 5 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.6 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

A1—0 to 3 inches; sandy clay loam

A2—3 to 8 inches; sandy clay loam

ABt—8 to 19 inches; sandy clay loam

Bt1—19 to 31 inches; sandy clay loam

Bt2—31 to 38 inches; sandy clay loam

Bt3—38 to 60 inches; clay

Minor components

Balcom and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 5 to 15 percent

Landform: Hillslope

Loslobos and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 5 to 15 percent

Landform: Hillslope

Positas and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 9 percent

Landform: Fan remnant, stream terrace

Xeric Torriorthents and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 15 percent

Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 2 to 9 percent

Landform: Depression, drainageway, seep

510—Beam-Panoza-Hillbrick complex, 50 to 75 percent slopes

Map unit setting

General location: Temblor and La Panza Ranges

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 935 to 4,100 feet (285 to 1,250 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Frost-free period: 200 to 250 days

Map unit composition

Beam and similar soils—35 percent

Panoza and similar soils—30 percent

Hillbrick and similar soils—15 percent

Minor components—20 percent

Characteristics of Beam and similar soils

Slope: 50 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from soft, calcareous shale, conglomerate, or sandstone

Typical vegetation: Annual grasses, forbs, and scattered shrubs

Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel; 0 to 10 percent by subangular cobbles; and 0 to 10 percent by subrounded stones

Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches

Available water capacity to a depth of 60 inches: About 2.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; fine sandy loam

Bk—4 to 15 inches; fine sandy loam

Cr—15 to 25 inches; soft, weathered bedrock

Characteristics of Panoza and similar soils

Slope: 50 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous sandstone, shale, and/or conglomerate

Typical vegetation: Annual grasses and forbs and scattered shrubs and juniper

Soil Survey of Kern County, California, Southwest Part

Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel; 0 to 20 percent by subangular cobbles; and 0 to 15 percent by subrounded stones

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 6 inches; loam

Bw—6 to 18 inches; loam

Bk—18 to 24 inches; loam

Cr—24 to 34 inches; soft, weathered bedrock

Characteristics of Hillbrick and similar soils

Slope: 50 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous sandstone and shale

Typical vegetation: Annual grasses, forbs, and scattered shrubs

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subangular gravel

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

Available water capacity to a depth of 60 inches: About 3.1 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; loam

C—4 to 15 inches; loam

R—15 to 25 inches; bedrock

Minor components

Badlands

Percentage of component in the map unit: About 3 percent

Slope: 50 to 75 percent

Landform: Hillslope

Bellyspring sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 50 to 75 percent

Landform: Hillslope

Padres sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 9 percent

Landform: Alluvial fan, alluvial flat

Semper very fine sandy loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 50 to 75 percent

Landform: Mountain slope

Panoza loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 30 to 50 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 2 percent

Slope: 50 to 75 percent

Landform: Hillslope, mountain slope

Unnamed soil with a stony surface layer and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 50 to 75 percent

Landform: Hillslope, mountain slope

Wasioja sandy loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 9 percent

Landform: Fan remnant

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 2 to 75 percent

Landform: Drainageway, seep

511—Beam-Panoza-Hillbrick complex, 15 to 30 percent slopes

Map unit setting

General location: Temblor and La Panza Ranges

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 1,800 to 4,100 feet (549 to 1,250 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Frost-free period: 200 to 250 days

Map unit composition

Beam and similar soils—35 percent

Panoza and similar soils—30 percent

Soil Survey of Kern County, California, Southwest Part

Hillbrick and similar soils—15 percent

Minor components—20 percent

Characteristics of Beam and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from soft, calcareous shale, conglomerate, or sandstone

Typical vegetation: Annual grasses and forbs and scattered shrubs and oaks

Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel; 0 to 10 percent by subangular cobbles; and 0 to 10 percent by subrounded stones

Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches

Available water capacity to a depth of 60 inches: About 2.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; fine sandy loam

Bk—4 to 15 inches; fine sandy loam

Cr—15 to 25 inches; soft, weathered bedrock

Characteristics of Panoza and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous sandstone, shale, and/or conglomerate

Typical vegetation: Annual grasses and forbs and scattered shrubs and juniper

Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel; 0 to 20 percent by subangular cobbles; and 0 to 15 percent by subrounded stones

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 4e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

- A—0 to 6 inches; loam
- Bw—6 to 18 inches; loam
- Bk—18 to 24 inches; loam
- Cr—24 to 34 inches; soft, weathered bedrock

Characteristics of Hillbrick and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: Annual grasses and forbs and scattered shrubs

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subangular gravel

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

Available water capacity to a depth of 60 inches: About 3.1 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

- A—0 to 4 inches; loam
- C—4 to 15 inches; loam
- R—15 to 25 inches; bedrock

Minor components

Bellyspring sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Hillslope

Padres sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 9 percent

Landform: Alluvial fan, alluvial flat

Semper very fine sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Mountain slope

Wasioja sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 9 percent

Landform: Fan remnant

Beam fine sandy loam and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 30 to 50 percent
Landform: Hillslope, mountain slope

Panoza loam and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 9 to 15 percent
Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 2 percent
Slope: 15 to 30 percent
Landform: Hillslope, mountain slope

Unnamed soil with a stony surface layer and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 15 to 30 percent
Landform: Hills, mountains

515—Zonap-Badlands-Beam complex, 30 to 75 percent slopes

Map unit setting

General location: Temblor Range and hills
MLRA: 15—Central California Coast Range
Landscape: Hills
Elevation: 2,535 to 4,125 feet (774 to 1,258 meters)
Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)
Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)
Frost-free period: 200 to 225 days

Map unit composition

Zonap and similar soils—50 percent
Badlands—20 percent
Beam and similar soils—15 percent
Minor components—15 percent

Characteristics of Zonap and similar soils

Slope: 30 to 75 percent
Landform: Hillslope
Parent material: Residuum weathered from sandstone and shale
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 to 30 percent by coarse, angular gravel
Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches
Available water capacity to a depth of 60 inches: About 4.3 inches (low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; fine sandy loam

A2—3 to 10 inches; fine sandy loam

C—10 to 26 inches; fine sandy loam

Cr—26 to 36 inches; soft, weathered bedrock

Characteristics of Badlands

Slope: 30 to 75 percent

Landform: Hillslope

Kind of material: Residuum weathered from sandstone and shale

Typical vegetation: None assigned

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Characteristics of Beam and similar soils

Slope: 30 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous shale, conglomerate, and/or sandstone

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches

Available water capacity to a depth of 60 inches: About 1.9 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; fine sandy loam

Bk—3 to 15 inches; fine sandy loam

Cr—15 to 25 inches; soft, weathered bedrock

Minor components

Ballinger and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 30 percent

Landform: Hillslope

Beam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 50 percent

Landform: Hillslope

Lithic Xerorthents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Hillslope

Xeric Torriorthents, very gravelly, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 2 percent

Slope: 5 to 30 percent

Landform: Hillslope, mountain slope

516—Zonap-Beam complex, 15 to 30 percent slopes

Map unit setting

General location: Temblor and Transverse Ranges

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 2,695 to 4,125 feet (822 to 1,258 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 200 to 225 days

Map unit composition

Zonap and similar soils—45 percent

Beam and similar soils—40 percent

Minor components—15 percent

Characteristics of Zonap and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: Annual grasses and forbs and scattered shrubs and juniper

Percentage of the surface covered by rock fragments: 0 to 30 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.3 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

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Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 4e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; fine sandy loam
A2—3 to 10 inches; fine sandy loam
C—10 to 26 inches; fine sandy loam
Cr—26 to 36 inches; soft, weathered bedrock

Characteristics of Beam and similar soils

Slope: 15 to 30 percent
Landform: Hillslope
Parent material: Residuum weathered from calcareous shale, conglomerate, and/or sandstone
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches
Available water capacity to a depth of 60 inches: About 1.9 inches (very low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; fine sandy loam
Bk—3 to 15 inches; fine sandy loam
Cr—15 to 25 inches; soft, weathered bedrock

Minor components

Padres and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 0 to 9 percent
Landform: Alluvial fan, alluvial flat

Pleito and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 30 to 70 percent
Landform: Fan remnant

Badlands

Percentage of component in the map unit: About 5 percent

Slope: 45 to 100 percent
Landform: Channel, flood plain

530—Tehachapi loam, 2 to 5 percent slopes

Map unit setting

General location: Transverse Range and associated areas
MLRA: 18—Sierra Nevada Foothills
Landscape: Valley
Elevation: 1,065 to 1,500 feet (326 to 458 meters)
Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)
Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Tehachapi and similar soils—80 percent
Minor components—20 percent

Characteristics of Tehachapi and similar soils

Slope: 2 to 5 percent
Landform: Stream terrace
Parent material: Alluvium derived from rocks of mixed mineralogy
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 to 5 percent by subrounded stones, 0 to 5 percent by subangular cobbles, and 0 to 30 percent by coarse, subangular gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 6.4 inches (moderate)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Low
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-4
Land capability classification (nonirrigated areas): 3e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 1 inch; loam
Bt1—1 to 5 inches; sandy clay loam
Bt2—5 to 19 inches; sandy clay loam
Bt3—19 to 24 inches; sandy clay loam
2Bt4—24 to 34 inches; very stony sandy clay loam
2Bt5—34 to 48 inches; very stony sandy clay loam
2Bt6—48 to 60 inches; extremely stony sandy clay loam

Minor components

Harrisranch and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 2 to 10 percent
Landform: Mountain slope

Pleito and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 2 to 10 percent
Landform: Fan remnant

Calleguas and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 2 to 10 percent
Landform: Hillslope

Badlands

Percentage of component in the map unit: About 3 percent
Slope: 2 to 10 percent
Landform: Mountain slope

Ballinger and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 2 to 10 percent
Landform: Hillslope

531—Tehachapi gravelly loam, 5 to 30 percent slopes

Map unit setting

General location: Transverse Range and associated areas
MLRA: 15—Central California Coast Range
Landscape: Valley
Elevation: 2,720 to 3,710 feet (830 to 1,131 meters)
Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)
Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)
Frost-free period: 250 to 300 days

Map unit composition

Tehachapi and similar soils—85 percent
Minor components—15 percent

Characteristics of Tehachapi and similar soils

Slope: 5 to 30 percent
Landform: Stream terrace
Parent material: Alluvium derived from rocks of mixed mineralogy
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 6.4 inches (moderate)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Medium
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-4

Land capability classification (nonirrigated areas): 3e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 1 inch; gravelly loam

Bt1—1 to 5 inches; gravelly sandy clay loam

Bt2—5 to 19 inches; gravelly sandy clay loam

Bt3—19 to 24 inches; gravelly sandy clay loam

2Bt4—24 to 34 inches; very stony sandy clay loam

2Bt5—34 to 48 inches; very stony sandy clay loam

2Bt6—48 to 60 inches; extremely stony sandy clay loam

Minor components

Calleguas and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 5 to 30 percent

Landform: Hillslope

Pleito and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 5 to 30 percent

Landform: Fan remnant

Ballinger and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 5 to 30 percent

Landform: Hillslope

Badlands

Percentage of component in the map unit: About 2 percent

Slope: 5 to 30 percent

Landform: Mountain slope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 30 percent

Landform: Drainageway, seep

540—Xeric Torriorthents-Badlands complex, 30 to 75 percent slopes

Map unit setting

General location: Southern Temblor Range

MLRA: 15—Central California Coast Range

Landscape: Mountains, hills

Elevation: 935 to 4,570 feet (285 to 1,393 meters)

Mean annual precipitation: 6 to 9 inches (152 to 229 millimeters)

Mean annual air temperature: 63 to 64 degrees F (17 to 18 degrees C)

Frost-free period: 190 to 250 days

Map unit composition

Xeric Torriorthents and similar soils—50 percent

Badlands—25 percent

Minor components—25 percent

Characteristics of Xeric Torriorthents and similar soils

Slope: 30 to 75 percent

Landform: Mountain slope

Parent material: Residuum weathered from sandstone or shale

Typical vegetation: Annual grasses, forbs, and scattered shrubs

Percentage of the surface covered by rock fragments: 15 to 35 percent by channers

Depth to a restrictive feature: Lithic bedrock—20 to 60 inches

Available water capacity to a depth of 60 inches: About 3.0 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 10 inches; channery sandy loam

C1—10 to 24 inches; very channery loam

C2—24 to 43 inches; extremely gravelly sandy loam

R—43 to 53 inches; unweathered bedrock

Characteristics of Badlands

Slope: 50 to 75 percent

Landform: Hillslope

Kind of material: Residuum weathered from soft, calcareous sandstone or shale

Typical vegetation: Component is barren.

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Hillbrick sandy loam and similar soils

Percentage of component in the map unit: About 7 percent

Slope: 30 to 75 percent

Landform: Hillslope

Beam fine sandy loam and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 30 to 75 percent

Landform: Hillslope

Kilmer loam and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 30 to 75 percent

Landform: Hillslope

Pyxo loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 30 to 75 percent

Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 75 percent

Landform: Drainageway, seep

550—Elkhills-Welport association, 9 to 30 percent slopes

Map unit setting

General location: The Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 755 to 2,250 feet (231 to 687 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Elkhills and similar soils—45 percent

Welport and similar soils—45 percent

Minor components—10 percent

Characteristics of Elkhills and similar soils

Slope: 9 to 30 percent

Landform: Hillslope

Parent material: Uplifted alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam

- A2—4 to 10 inches; sandy loam
- C1—10 to 27 inches; sandy loam
- C2—27 to 34 inches; sandy loam
- C3—34 to 52 inches; coarse sandy loam
- C4—52 to 65 inches; coarse sandy loam

Characteristics of Welpport and similar soils

Slope: 9 to 15 percent

Landform: Hillslope

Parent material: Uplifted alluvium derived from calcareous sandstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 5 to 20 percent by coarse, subangular gravel

Depth to a restrictive feature: Petrocalcic horizon—10 to 20 inches

Available water capacity to a depth of 60 inches: About 1.5 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 4e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; sandy loam

A2—3 to 9 inches; sandy loam

Bw—9 to 12 inches; sandy loam

Bkqm—12 to 27 inches; indurated material

2C—27 to 60 inches; cobbly sandy loam

Minor components

Hillbrick and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 5 to 15 percent

Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 5 to 15 percent

Landform: Hillslope

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 5 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 5 to 15 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 1 percent

Slope: 5 to 15 percent

Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 15 percent

Landform: Hillslope

560—Laval-Pleitito complex, 1 to 5 percent slopes

Map unit setting

General location: Transverse Range and associated areas

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 465 to 1,840 feet (142 to 561 meters)

Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)

Mean annual air temperature: 61 to 65 degrees F (16 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Laval and similar soils—44 percent

Pleitito and similar soils—44 percent

Minor components—12 percent

Characteristics of Laval and similar soils

Slope: 1 to 5 percent

Landform: Alluvial fan, flood plain

Parent material: Alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 5 to 20 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 2.4 inches (very low)

Selected hydrologic properties

Present annual flooding: Frequent

Present annual ponding: None

Surface runoff class: Very low

Current water table: None noted

Natural drainage class: Somewhat excessively drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; sandy loam

C1—4 to 13 inches; extremely gravelly sandy loam

C2—13 to 20 inches; very gravelly coarse sandy loam

C3—20 to 23 inches; loamy coarse sand

C4—23 to 32 inches; extremely gravelly coarse sand

C5—32 to 48 inches; extremely gravelly loamy coarse sand

C6—48 to 62 inches; extremely gravelly loamy coarse sand

Characteristics of Pleitito and similar soils

Slope: 1 to 5 percent

Landform: Alluvial fan, flood plain

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.7 inches (moderate)

Selected hydrologic properties

Present annual flooding: Frequent

Present annual ponding: None

Surface runoff class: Very low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; sandy loam

A2—3 to 8 inches; sandy loam

C1—8 to 11 inches; stratified sand to fine sandy loam

C2—11 to 18 inches; very gravelly sand

C3—18 to 21 inches; stratified very gravelly sand to fine sandy loam

C4—21 to 29 inches; very gravelly coarse sandy loam

Ab—29 to 48 inches; sandy loam

Bkb—48 to 65 inches; sandy loam

Minor components

Cerini and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Guijarral and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 1 to 5 percent

Landform: Fan remnant

Xerofluvents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Flood plain

Tupman and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 5 percent

Landform: Fan remnant, stream terrace

Excelsior and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

561—Laval-Pleitito complex, 5 to 15 percent slopes

Map unit setting

General location: Transverse Range and associated areas

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 520 to 2,910 feet (160 to 887 meters)

Mean annual precipitation: 7 to 10 inches (178 to 254 millimeters)

Mean annual air temperature: 61 to 65 degrees F (16 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Laval and similar soils—45 percent

Pleitito and similar soils—45 percent

Minor components—10 percent

Characteristics of Laval and similar soils

Slope: 5 to 15 percent

Landform: Alluvial fan

Parent material: Alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 5 to 20 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 2.4 inches (very low)

Selected hydrologic properties

Present annual flooding: Frequent

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Somewhat excessively drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; sandy loam

C1—4 to 13 inches; extremely gravelly sandy loam

C2—13 to 20 inches; very gravelly coarse sandy loam

C3—20 to 23 inches; loamy coarse sand

C4—23 to 32 inches; extremely gravelly coarse sand

C5—32 to 48 inches; extremely gravelly loamy coarse sand

C6—48 to 62 inches; extremely gravelly loamy coarse sand

Characteristics of Pleitito and similar soils

Slope: 5 to 15 percent

Landform: Alluvial fan

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.7 inches (moderate)

Selected hydrologic properties

Present annual flooding: Frequent

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 2e-4

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; sandy loam

A2—3 to 8 inches; sandy loam

C1—8 to 11 inches; stratified sand to fine sandy loam

C2—11 to 18 inches; very gravelly sand

C3—18 to 21 inches; stratified sand to very gravelly fine sandy loam

C4—21 to 29 inches; very gravelly coarse sandy loam

Ab—29 to 48 inches; sandy loam

Bkb—48 to 65 inches; sandy loam

Minor components

Cerini and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Tupman and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Fan remnant, stream terrace

Excelsior and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Guijarral and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 2 to 15 percent

Landform: Fan remnant

Xerofluvents and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 2 to 15 percent

Landform: Flood plain

570—Hillbrick-Rock outcrop complex, 15 to 50 percent slopes

Map unit setting

General location: Temblor Range

MLRA: 15—Central California Coast Range

Landscape: Hills, mountain system

Elevation: 835 to 3,500 feet (256 to 1,067 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Frost-free period: 175 to 250 days

Map unit composition

Hillbrick and similar soils—65 percent

Rock outcrop—15 percent

Minor components—20 percent

Characteristics of Hillbrick and similar soils

Slope: 15 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: Annual grasses and forbs and scattered shrubs and oaks

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subangular gravel

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

Available water capacity to a depth of 60 inches: About 3.1 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; loam

C—4 to 15 inches; loam

R—15 to 25 inches; bedrock

Characteristics of Rock outcrop

Slope: 15 to 50 percent

Landform: Hillslope, mountain slope

Kind of rock: Sandstone and shale

Typical vegetation: Component is barren.

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Aido clay and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 50 percent

Landform: Hillslope

Hillbrick loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 50 to 75 percent

Landform: Hillslope, mountain slope

Kilmer loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 50 percent

Landform: Hillslope

San Timoteo sandy loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 50 percent

Landform: Hillslope

571—Hillbrick-Rock outcrop complex, 15 to 75 percent slopes

Map unit setting

General location: San Juan Hills and Temblor Range

MLRA: 15—Central California Coast Range

Landscape: Hills, mountain system

Elevation: 1,200 to 5,490 feet (366 to 1,674 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Frost-free period: 175 to 250 days

Map unit composition

Hillbrick and similar soils—65 percent

Rock outcrop—15 percent

Minor components—20 percent

Characteristics of Hillbrick and similar soils

Slope: 50 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: Grasses, forbs, and scattered shrubs and oaks

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subangular gravel

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

Available water capacity to a depth of 60 inches: About 3.1 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; loam

C—4 to 15 inches; loam

R—15 to 25 inches; bedrock

Characteristics of Rock outcrop

Slope: 15 to 75 percent

Landform: Hillslope, mountain slope

Kind of rock: Sandstone and shale

Typical vegetation: Component is barren.

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Aido clay and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 50 to 75 percent

Landform: Hillslope

Beam fine sandy loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 50 to 75 percent

Landform: Hillslope

Kilmer loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 50 to 75 percent

Landform: Hillslope

San Timoteo sandy loam and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 50 to 75 percent

Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 75 percent

Landform: Drainageway, seep

580—Reward-Hillbrick association, 15 to 30 percent slopes

Map unit setting

General location: Temblor Range and associated areas

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 1,855 to 2,400 feet (566 to 732 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Soil Survey of Kern County, California, Southwest Part

Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Reward and similar soils—45 percent

Hillbrick and similar soils—45 percent

Minor components—10 percent

Characteristics of Reward and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous shale and/or calcareous sandstone

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 1 to 10 percent by channers

Depth to a restrictive feature: Lithic bedrock—40 to 70 inches

Available water capacity to a depth of 60 inches: About 7.7 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 6e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 24 inches; channery loam

C1—24 to 39 inches; channery loam

C2—39 to 60 inches; channery loam

R—60 to 70 inches; bedrock

Characteristics of Hillbrick and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous sandstone and shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, subangular gravel

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

Available water capacity to a depth of 60 inches: About 1.9 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 2 inches; sandy loam

A2—2 to 6 inches; sandy loam

A3—6 to 15 inches; sandy loam

R—15 to 25 inches; unweathered bedrock

Minor components

Pyxo and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Hillslope

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 0 to 5 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 1 percent

Slope: 15 to 30 percent

Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 15 to 30 percent

Landform: Hillslope

581—Reward channery loam, 30 to 50 percent slopes

Map unit setting

General location: The hills associated with Tumbler Range

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 1,200 to 2,995 feet (366 to 914 meters)

Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)

Mean annual air temperature: 68 to 68 degrees F (20 to 20 degrees C)

Frost-free period: 200 to 260 days

Map unit composition

Reward and similar soils—85 percent

Minor components—15 percent

Characteristics of Reward and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous shale and/or calcareous sandstone

Typical vegetation: None assigned

Soil Survey of Kern County, California, Southwest Part

Percentage of the surface covered by rock fragments: 1 to 10 percent by angular cobbles

Depth to a restrictive feature: Lithic bedrock—40 to 70 inches

Available water capacity to a depth of 60 inches: About 7.7 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 6e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 24 inches; channery loam

C1—24 to 39 inches; channery loam

C2—39 to 60 inches; channery loam

R—60 to 70 inches; bedrock

Minor components

Aramburu and similar soils

Percentage of component in the map unit: About 10 percent

Slope: 30 to 50 percent

Landform: Hillslope

Temblor and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 50 percent

Landform: Hillslope

Lighter colored Reward soil with more than 50 percent slopes and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 50 to 70 percent

Landform: Hillslope

583—Bellyspring-Panoza complex, 9 to 15 percent slopes

Map unit setting

General location: San Juan Hills

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 1,630 to 3,555 feet (498 to 1,085 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Frost-free period: 150 to 175 days

Map unit composition

Bellyspring and similar soils—35 percent

Panoza and similar soils—25 percent

Minor components—40 percent

Characteristics of Bellyspring and similar soils

Slope: 9 to 15 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone

Typical vegetation: Annual grasses and forbs and scattered shrubs

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 5.8 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 4e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; sandy loam

A2—3 to 13 inches; loam

Bt—13 to 23 inches; sandy clay loam

Bk—23 to 38 inches; sandy loam

Cr—38 to 40 inches; soft, weathered bedrock

Characteristics of Panoza and similar soils

Slope: 9 to 15 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous sandstone, shale, and/or conglomerate

Typical vegetation: Annual grasses and forbs and scattered shrubs

Percentage of the surface covered by rock fragments: 0 to 20 percent by subangular cobbles and 0 to 15 percent by subrounded stones

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 4e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 6 inches; loam

Bw—6 to 18 inches; loam

Bk—18 to 24 inches; loam

Cr—24 to 34 inches; soft, weathered bedrock

Minor components

Padres sandy loam and similar soils

Percentage of component in the map unit: About 11 percent

Slope: 2 to 9 percent

Landform: Alluvial fan, alluvial flat

Beam fine sandy loam and similar soils

Percentage of component in the map unit: About 10 percent

Slope: 9 to 15 percent

Landform: Hillslope

Polonio clay loam and similar soils

Percentage of component in the map unit: About 10 percent

Slope: 2 to 9 percent

Landform: Alluvial fan

Muranch loam and similar soils

Percentage of component in the map unit: About 9 percent

Slope: 30 to 50 percent

Landform: Hillslope, mountain slope

584—Bellyspring-Panoza complex, 15 to 30 percent slopes

Map unit setting

General location: Caliente Range

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 2,200 to 3,300 feet (671 to 1,006 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Frost-free period: 150 to 175 days

Map unit composition

Bellyspring and similar soils—35 percent

Panoza and similar soils—30 percent

Minor components—35 percent

Characteristics of Bellyspring and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone

Typical vegetation: Annual grasses and forbs and scattered shrubs and juniper

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 5.8 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Soil Survey of Kern County, California, Southwest Part

Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 4e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; sandy loam
A2—3 to 13 inches; loam
Bt—13 to 23 inches; sandy clay loam
Bk—23 to 38 inches; sandy loam
Cr—38 to 40 inches; soft, weathered bedrock

Characteristics of Panoza and similar soils

Slope: 15 to 30 percent
Landform: Hillslope
Parent material: Residuum weathered from calcareous sandstone, shale, and/or conglomerate
Typical vegetation: Annual grasses and forbs and scattered shrubs and juniper
Percentage of the surface covered by rock fragments: 0 to 20 percent by subangular cobbles and 0 to 15 percent by subrounded stones
Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches
Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 4e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 6 inches; loam
Bw—6 to 18 inches; loam
Bk—18 to 24 inches; loam
Cr—24 to 34 inches; soft, weathered bedrock

Minor components

Beam fine sandy loam and similar soils

Percentage of component in the map unit: About 10 percent
Slope: 15 to 30 percent
Landform: Hillslope

Muranch loam and similar soils

Percentage of component in the map unit: About 6 percent
Slope: 30 to 50 percent
Landform: Hillslope, mountain slope

Padres sandy loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 2 to 9 percent

Landform: Alluvial fan, alluvial flat

Badlands

Percentage of component in the map unit: About 4 percent

Slope: 15 to 30 percent

Landform: Hillslope

Polonio clay loam and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 2 to 9 percent

Landform: Alluvial fan

Rock outcrop

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Hillslope, mountain slope

Semper very fine sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 50 percent

Landform: Mountain slope

585—Bellyspring-Panoza complex, 30 to 50 percent slopes

Map unit setting

General location: Caliente Range

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 2,200 to 3,300 feet (671 to 1,006 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Frost-free period: 150 to 175 days

Map unit composition

Bellyspring and similar soils—35 percent

Panoza and similar soils—30 percent

Minor components—35 percent

Characteristics of Bellyspring and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone

Typical vegetation: Annual grasses and forbs and scattered shrubs and juniper

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 5.8 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

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Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 6e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; sandy loam
A2—3 to 13 inches; loam
Bt—13 to 23 inches; sandy clay loam
Bk—23 to 38 inches; sandy loam
Cr—38 to 40 inches; soft, weathered bedrock

Characteristics of Panoza and similar soils

Slope: 30 to 50 percent
Landform: Hillslope
Parent material: Residuum weathered from calcareous sandstone, shale, and/or conglomerate
Typical vegetation: Annual grasses and forbs and scattered shrubs and juniper
Percentage of the surface covered by rock fragments: 0 to 20 percent by subangular cobbles and 0 to 15 percent by subrounded stones
Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches
Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 6e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 6 inches; loam
Bw—6 to 18 inches; loam
Bk—18 to 24 inches; loam
Cr—24 to 34 inches; soft, weathered bedrock

Minor components

Beam fine sandy loam and similar soils

Percentage of component in the map unit: About 10 percent
Slope: 30 to 50 percent
Landform: Hillslope

Muranch loam and similar soils

Percentage of component in the map unit: About 6 percent
Slope: 30 to 50 percent
Landform: Hillslope, mountain slope

Padres sandy loam and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 2 to 9 percent

Landform: Alluvial fan, alluvial flat

Badlands

Percentage of component in the map unit: About 4 percent

Slope: 30 to 50 percent

Landform: Hillslope

Polonio clay loam and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 2 to 9 percent

Landform: Alluvial fan

Rock outcrop

Percentage of component in the map unit: About 3 percent

Slope: 30 to 50 percent

Landform: Hillslope, mountain slope

Semper very fine sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 50 percent

Landform: Mountain slope

586—Panoza-Beam complex, 15 to 30 percent slopes

Map unit setting

General location: Temblor Range

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 1,800 to 4,100 feet (549 to 1,250 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Frost-free period: 175 to 225 days

Map unit composition

Panoza and similar soils—40 percent

Beam and similar soils—30 percent

Minor components—30 percent

Characteristics of Panoza and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous sandstone, shale, and/or conglomerate

Typical vegetation: Annual grasses, forbs, and scattered shrubs

Percentage of the surface covered by rock fragments: 0 to 20 percent by subangular cobbles and 0 to 15 percent by subrounded stones

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 4e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 6 inches; loam
Bw—6 to 18 inches; loam
Bk—18 to 24 inches; loam
Cr—24 to 34 inches; soft, weathered bedrock

Characteristics of Beam and similar soils

Slope: 15 to 30 percent
Landform: Hillslope
Parent material: Residuum weathered from soft, calcareous shale, conglomerate, or sandstone
Typical vegetation: Annual grasses, forbs, and scattered shrubs
Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel; 0 to 10 percent by subangular cobbles; and 0 to 10 percent by subrounded stones
Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches
Available water capacity to a depth of 60 inches: About 2.5 inches (low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; fine sandy loam
Bk—4 to 15 inches; fine sandy loam
Cr—15 to 25 inches; soft, weathered bedrock

Minor components

Bellyspring sandy loam and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 15 to 30 percent
Landform: Hillslope

Hillbrick loam and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 15 to 30 percent
Landform: Hillslope

Padres sandy loam and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 2 to 9 percent
Landform: Alluvial fan, alluvial flat

Beam fine sandy loam and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 30 to 50 percent
Landform: Hillslope, mountain slope

Beam stony fine sandy loam and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 15 to 30 percent
Landform: Hillslope, mountain slope

Panoza loam and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 9 to 15 percent
Landform: Hillslope

Semper very fine sandy loam and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 15 to 30 percent
Landform: Mountain slope

Thomhill loam and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 2 to 9 percent
Landform: Alluvial fan, alluvial flat

Wasioja sandy loam and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 2 to 9 percent
Landform: Fan remnant

587—Panoza-Beam complex, 30 to 50 percent slopes

Map unit setting

General location: Temblor Range and San Juan Hills
MLRA: 15—Central California Coast Range
Landscape: Hills
Elevation: 1,800 to 4,100 feet (549 to 1,250 meters)
Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)
Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)
Frost-free period: 175 to 225 days

Map unit composition

Panoza and similar soils—40 percent
Beam and similar soils—30 percent
Minor components—30 percent

Characteristics of Panoza and similar soils

Slope: 30 to 50 percent
Landform: Hillslope
Parent material: Residuum weathered from calcareous sandstone, shale, and/or conglomerate
Typical vegetation: Annual grasses and forbs and scattered shrubs and juniper
Percentage of the surface covered by rock fragments: 0 to 20 percent by subangular cobbles and 0 to 15 percent by subrounded stones

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Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches
Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 6e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 6 inches; loam
Bw—6 to 18 inches; loam
Bk—18 to 24 inches; loam
Cr—24 to 34 inches; soft, weathered bedrock

Characteristics of Beam and similar soils

Slope: 30 to 50 percent
Landform: Hillslope
Parent material: Residuum weathered from soft, calcareous shale, conglomerate, or sandstone
Typical vegetation: Annual grasses, forbs, and scattered shrubs
Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel; 0 to 10 percent by subangular cobbles; and 0 to 10 percent by subrounded stones
Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches
Available water capacity to a depth of 60 inches: About 2.5 inches (low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; fine sandy loam
Bk—4 to 15 inches; fine sandy loam
Cr—15 to 25 inches; soft, weathered bedrock

Minor components

Badlands

Percentage of component in the map unit: About 4 percent
Slope: 30 to 50 percent
Landform: Hillslope

Bellyspring sandy loam and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 30 to 50 percent

Landform: Hillslope

Hillbrick loam and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 30 to 50 percent

Landform: Hillslope

Padres sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 9 percent

Landform: Alluvial fan, alluvial flat

Polonio loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 9 percent

Landform: Alluvial fan

Beam stony loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 50 percent

Landform: Hillslope, mountain slope

Beam loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 50 to 75 percent

Landform: Hillslope, mountain slope

Semper very fine sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 50 percent

Landform: Mountain slope

Wasioja sandy loam and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 9 percent

Landform: Fan remnant

588—Panoza-Beam complex, 50 to 75 percent slopes

Map unit setting

General location: Temblor Range and San Juan Hills

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 1,800 to 4,100 feet (549 to 1,250 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 57 to 61 degrees F (14 to 16 degrees C)

Frost-free period: 175 to 225 days

Map unit composition

Panoza and similar soils—40 percent

Beam and similar soils—30 percent

Minor components—30 percent

Characteristics of Panoza and similar soils

Slope: 50 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous sandstone, shale, and/or conglomerate

Typical vegetation: Annual grasses and forbs and scattered shrubs and juniper

Percentage of the surface covered by rock fragments: 0 to 20 percent by subangular cobbles and 0 to 15 percent by subrounded stones

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 6 inches; loam

Bw—6 to 18 inches; loam

Bk—18 to 24 inches; loam

Cr—24 to 34 inches; soft, weathered bedrock

Characteristics of Beam and similar soils

Slope: 50 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from soft, calcareous shale, conglomerate, or sandstone

Typical vegetation: Annual grasses, forbs, and scattered shrubs

Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel; 0 to 10 percent by subangular cobbles; and 0 to 10 percent by subrounded stones

Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches

Available water capacity to a depth of 60 inches: About 2.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; fine sandy loam

Bk—4 to 15 inches; fine sandy loam
Cr—15 to 25 inches; soft, weathered bedrock

Minor components

Badlands

Percentage of component in the map unit: About 4 percent
Slope: 50 to 75 percent
Landform: Hillslope

Bellyspring sandy loam and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 50 to 75 percent
Landform: Hillslope

Hillbrick loam and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 50 to 75 percent
Landform: Hillslope

Padres sandy loam and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 2 to 9 percent
Landform: Alluvial fan, alluvial flat

Semper very fine sandy loam and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 50 to 75 percent
Landform: Mountain slope

Wasioja sandy loam and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 2 to 9 percent
Landform: Fan remnant

Panoza loam and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 30 to 50 percent
Landform: Hillslope

Beam stony loam and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 50 to 75 percent
Landform: Hillslope, mountain slope

**590—Gorman-Typic Xerorthents, mesic-Xerorthents,
shallow, complex, 30 to 100 percent slopes**

Map unit setting

General location: Transverse Range and associated areas
MLRA: 20—Southern California Mountains
Landscape: Hills, mountains
Elevation: 2,420 to 5,740 feet (738 to 1,750 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 57 to 60 degrees F (14 to 16 degrees C)
Frost-free period: 150 to 225 days

Map unit composition

Gorman and similar soils—35 percent
Typic Xerorthents, mesic, and similar soils—30 percent
Xerorthents, shallow, and similar soils—20 percent
Minor components—15 percent

Characteristics of Gorman and similar soils

Slope: 30 to 50 percent
Landform: Mountain slope
Parent material: Colluvium derived from granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 10 to 20 percent by coarse, subangular gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 8.5 inches (high)
Selected hydrologic properties
Present annual flooding: None
Present annual ponding: None
Surface runoff class: High
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B
Interpretive groups
Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 7 inches; sandy loam
Bt1—7 to 15 inches; sandy loam
Bt2—15 to 23 inches; loam
Bt3—23 to 37 inches; sandy clay loam
Bt4—37 to 48 inches; sandy clay loam
Bt5—48 to 61 inches; clay loam

Characteristics of Typic Xerorthents, mesic, and similar soils

Slope: 40 to 85 percent
Landform: Hillslope
Parent material: Residuum weathered from sandstone and shale
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 5 to 20 percent by coarse, angular gravel
Depth to a restrictive feature: Paralithic bedrock—24 to 44 inches
Available water capacity to a depth of 60 inches: About 4.6 inches (low)
Selected hydrologic properties
Present annual flooding: None
Present annual ponding: None
Surface runoff class: High
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; loam

A2—4 to 9 inches; loam

C1—9 to 18 inches; gravelly loam

C2—18 to 24 inches; gravelly loam

C3—24 to 34 inches; very gravelly loam

Cr—34 to 44 inches; soft, weathered bedrock

Characteristics of Xerorthents, shallow, and similar soils

Slope: 50 to 100 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches

Available water capacity to a depth of 60 inches: About 1.8 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 8 inches; sandy clay loam

C—8 to 13 inches; sandy loam

Cr—13 to 23 inches; soft, weathered bedrock

Minor components

Harrisranch and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 15 to 30 percent

Landform: Mountain slope

Ballinger and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 60 percent

Landform: Hillslope

Pleito and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 9 to 30 percent

Landform: Fan remnant

Badlands

Percentage of component in the map unit: About 2 percent

Slope: 20 to 100 percent

Landform: Mountain slope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 9 to 50 percent

Landform: Drainageway, seep

591—Geghus-Selby complex, 30 to 75 percent slopes

Map unit setting

General location: Transverse Range and associated areas

MLRA: 20—Southern California Mountains

Landscape: Hills

Elevation: 2,535 to 4,855 feet (774 to 1,480 meters)

Mean annual precipitation: 10 to 20 inches (254 to 508 millimeters)

Mean annual air temperature: 57 to 65 degrees F (14 to 18 degrees C)

Frost-free period: 150 to 225 days

Map unit composition

Geghus and similar soils—40 percent

Selby and similar soils—40 percent

Minor components—20 percent

Characteristics of Geghus and similar soils

Slope: 30 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous shale, sandstone, and/or conglomerate

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 10.0 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam

Bt1—2 to 6 inches; loam

Bt2—6 to 15 inches; loam

Btk1—15 to 29 inches; clay loam

Btk2—29 to 44 inches; clay loam

Btk3—44 to 54 inches; clay loam

Btk4—54 to 62 inches; loam

Characteristics of Selby and similar soils

Slope: 30 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from metamorphic and sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 10 to 40 percent by subangular cobbles and 10 to 40 percent by coarse, subangular gravel

Depth to a restrictive feature: Lithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 1.6 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; very cobbly loam

Bt1—3 to 8 inches; very cobbly loam

Bt2—8 to 16 inches; very cobbly sandy clay loam

Bt3—16 to 25 inches; extremely cobbly sandy loam

R—25 to 35 inches; bedrock

Minor components

Bitcreek and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 2 to 15 percent

Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 2 to 15 percent

Landform: Mountain slope

Dibble and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 50 percent

Landform: Hillslope

Eaglerest and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Mountain slope

Lithic Xerorthents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 60 percent

Landform: Mountain slope

Positas and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 9 percent

Landform: Fan remnant, stream terrace

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 15 to 50 percent

Landform: Drainageway, seep

600—Positas-Bitcreek complex, 2 to 9 percent slopes

Map unit setting

General location: Transverse Range and associated areas

MLRA: 15—Central California Coast Range

Landscape: Mountain valleys, mountain hills

Elevation: 2,030 to 4,275 feet (619 to 1,304 meters)

Mean annual precipitation: 9 to 14 inches (229 to 356 millimeters)

Mean annual air temperature: 58 to 63 degrees F (14 to 17 degrees C)

Frost-free period: 180 to 240 days

Map unit composition

Positas and similar soils—45 percent

Bitcreek and similar soils—35 percent

Minor components—20 percent

Characteristics of Positas and similar soils

Slope: 2 to 9 percent

Landform: Fan remnant, stream terrace

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 9.2 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

A1—0 to 2 inches; loam

A2—2 to 10 inches; loam

A3—10 to 15 inches; loam

Bt1—15 to 19 inches; clay

Bt2—19 to 32 inches; clay

Bt3—32 to 37 inches; clay

BCt—37 to 44 inches; clay loam

2B¹t—44 to 55 inches; extremely gravelly sandy clay loam

2BC¹t—55 to 67 inches; extremely gravelly sandy loam

Characteristics of Bitcreek and similar soils

Slope: 2 to 9 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.6 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

A1—0 to 3 inches; sandy clay loam

A2—3 to 8 inches; sandy clay loam

ABt—8 to 19 inches; sandy clay loam

Bt1—19 to 31 inches; sandy clay loam

Bt2—31 to 38 inches; sandy clay loam

Bt3—38 to 60 inches; clay

Minor components

Harrisranch and similar soils

Percentage of component in the map unit: About 9 percent

Slope: 2 to 15 percent

Landform: Mountain slope

Eaglerest and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 15 to 30 percent

Landform: Mountain slope

Lithic Xerorthents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 60 percent

Landform: Mountain slope

Dibble and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 50 percent

Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 2 to 9 percent
Landform: Drainageway, seep

610—Balcom-Rock outcrop complex, 50 to 75 percent slopes

Map unit setting

General location: Transverse Range and associated areas
MLRA: 20—Southern California Mountains
Landscape: Hills, mountains
Elevation: 2,395 to 5,955 feet (731 to 1,816 meters)
Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)
Mean annual air temperature: 57 to 60 degrees F (14 to 16 degrees C)
Frost-free period: 150 to 225 days

Map unit composition

Balcom and similar soils—55 percent
Rock outcrop—20 percent
Minor components—25 percent

Characteristics of Balcom and similar soils

Slope: 50 to 75 percent
Landform: Hillslope
Parent material: Residuum weathered from calcareous sandstone and/or calcareous mudstone
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches
Available water capacity to a depth of 60 inches: About 6.1 inches (moderate)
Selected hydrologic properties
Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam
Btk1—2 to 10 inches; loam
Btk2—10 to 20 inches; loam
Btk3—20 to 33 inches; extremely paragravelly loam
Cr—33 to 43 inches; soft, weathered bedrock

Characteristics of Rock outcrop

Slope: 50 to 75 percent
Landform: Mountain slope
Kind of rock: Calcareous sandstone and/or calcareous shale

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Harrisranch and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 50 to 75 percent

Landform: Mountain slope

Calleguas and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 50 to 75 percent

Landform: Hillslope

Pleito and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 40 to 50 percent

Landform: Fan remnant

Ballinger and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Hillslope

Xeric Torriorthents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 50 to 100 percent

Landform: Escarpment, fan remnant, stream terrace

Badlands

Percentage of component in the map unit: About 2 percent

Slope: 20 to 100 percent

Landform: Mountain slope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 75 percent

Landform: Drainageway, seep

**620—Typic Xerorthents, mesic-Haploxerepts-Xerorthents,
sandy, association, 30 to 75 percent slopes**

Map unit setting

General location: Transverse Range and associated areas

MLRA: 20—Southern California Mountains

Landscape: Hills

Elevation: 2,390 to 4,680 feet (730 to 1,427 meters)

Mean annual precipitation: 13 to 17 inches (330 to 432 millimeters)

Mean annual air temperature: 57 to 60 degrees F (14 to 16 degrees C)

Frost-free period: 200 to 250 days

Map unit composition

Typic Xerorthents, mesic, and similar soils—40 percent

Haploxerepts and similar soils—40 percent

Xerorthents, sandy, and similar soils—18 percent
Minor components—2 percent

Characteristics of Typic Xerorthents, mesic, and similar soils

Slope: 30 to 75 percent

Landform: Hillslope

Parent material: Colluvium derived from sandstone and shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 5 to 20 percent by medium gravel

Depth to a restrictive feature: Paralithic bedrock—24 to 44 inches

Available water capacity to a depth of 60 inches: About 4.6 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; loam

A2—4 to 9 inches; loam

C1—9 to 18 inches; gravelly loam

C2—18 to 24 inches; gravelly loam

C3—24 to 34 inches; very gravelly loam

Cr—34 to 44 inches; soft, weathered bedrock

Characteristics of Haploxerepts and similar soils

Slope: 30 to 75 percent

Landform: Hillslope

Parent material: Colluvium derived from sandstone and shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 5.8 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

- A—0 to 7 inches; gravelly sandy loam
- Bk1—7 to 20 inches; gravelly sandy loam
- Bk2—20 to 41 inches; gravelly sandy loam
- Bk3—41 to 60 inches; gravelly sandy loam

Characteristics of Xerorthents, sandy, and similar soils

Slope: 30 to 75 percent

Landform: Hillslope

Parent material: Colluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 2 to 10 percent by subangular cobbles and 20 to 60 percent by coarse, subangular gravel

Depth to a restrictive feature: Paralithic bedrock—40 to 60 inches

Available water capacity to a depth of 60 inches: About 3.0 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

- A1—0 to 11 inches; gravelly loamy sand
- A2—11 to 22 inches; gravelly loamy sand
- C1—22 to 33 inches; very cobbly loamy sand
- C2—33 to 41 inches; gravelly loamy sand
- Cr—41 to 51 inches; soft, weathered bedrock

Minor components

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 5 to 75 percent

Landform: Drainageway, flood plain

640—Bitcreek-Dibble-Eaglerest complex, 15 to 50 percent slopes

Map unit setting

General location: Transverse Range and associated areas

MLRA: 15—Central California Coast Range

Landscape: Hills, mountains

Elevation: 1,165 to 5,190 feet (356 to 1,583 meters)

Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)

Mean annual air temperature: 57 to 60 degrees F (14 to 16 degrees C)

Frost-free period: 150 to 225 days

Map unit composition

Bitcreek and similar soils—40 percent
Dibble and similar soils—30 percent
Eaglerest and similar soils—15 percent
Minor components—15 percent

Characteristics of Bitcreek and similar soils

Slope: 15 to 50 percent
Landform: Hillslope
Parent material: Residuum weathered from sandstone and/or shale
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 7.6 inches (high)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; sandy clay loam
A2—3 to 8 inches; sandy clay loam
ABt—8 to 19 inches; sandy clay loam
Bt1—19 to 31 inches; sandy clay loam
Bt2—31 to 38 inches; sandy clay loam
Bt3—38 to 60 inches; clay

Characteristics of Dibble and similar soils

Slope: 15 to 50 percent
Landform: Hillslope
Parent material: Residuum weathered from sandstone and shale
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 20 to 35 percent by coarse, angular gravel
Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches
Available water capacity to a depth of 60 inches: About 5.2 inches (moderate)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; gravelly loam

Bt1—3 to 12 inches; clay loam

Bt2—12 to 22 inches; clay loam

Bt3—22 to 31 inches; clay loam

Bt4—31 to 38 inches; very gravelly clay loam

Cr—38 to 48 inches; soft, weathered bedrock

Characteristics of Eaglerest and similar soils

Slope: 15 to 50 percent

Landform: Mountain slope

Parent material: Residuum weathered from shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches

Available water capacity to a depth of 60 inches: About 1.9 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam

Bt1—2 to 6 inches; very gravelly silt loam

Bt2—6 to 13 inches; very gravelly silt loam

Cr—13 to 23 inches; soft, weathered bedrock

Minor components

Harrisranch and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 15 to 50 percent

Landform: Mountain slope

Bitcreek and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 15 to 50 percent

Landform: Hillslope

Positas and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 50 percent

Landform: Fan remnant, stream terrace

Lithic Xerorthents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 60 percent

Landform: Mountain slope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 75 percent

Landform: Drainageway, seep

650—Lithic Argixerolls-Lithic Xerorthents-Rock outcrop complex, 50 to 75 percent slopes, mesic

Map unit setting

General location: Transverse Range and associated areas

MLRA: 20—Southern California Mountains

Landscape: Mountains

Elevation: 3,325 to 5,475 feet (1,014 to 1,669 meters)

Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)

Mean annual air temperature: 57 to 60 degrees F (14 to 16 degrees C)

Frost-free period: 150 to 225 days

Map unit composition

Lithic Argixerolls and similar soils—50 percent

Lithic Xerorthents, mesic, and similar soils—25 percent

Rock outcrop—15 percent

Minor components—10 percent

Characteristics of Lithic Argixerolls and similar soils

Slope: 50 to 75 percent

Landform: Mountain slope

Parent material: Residuum weathered from sandstone

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 20 to 40 percent by angular gravel

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

Available water capacity to a depth of 60 inches: About 0.9 inch (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 2 inches; gravelly fine sandy loam

A2—2 to 7 inches; extremely flaggy fine sandy loam

Bt—7 to 11 inches; extremely flaggy fine sandy loam

R—11 to 21 inches; bedrock

Characteristics of Lithic Xerorthents, mesic, and similar soils

Slope: 50 to 75 percent

Landform: Mountain slope

Parent material: Residuum weathered from sandstone

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 20 to 40 percent by angular gravel, 10 to 30 percent by subrounded stones, 5 to 25 percent by subrounded boulders, and 5 to 15 percent by angular cobbles

Depth to a restrictive feature: Lithic bedrock—8 to 19 inches

Available water capacity to a depth of 60 inches: About 0.4 inch (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 7 inches; extremely bouldery sandy loam

A2—7 to 9 inches; extremely bouldery sandy loam

R—9 to 19 inches; bedrock

Characteristics of Rock outcrop

Slope: 50 to 75 percent

Landform: Mountain slope

Kind of rock: Sandstone

Typical vegetation: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Bitcreek and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 50 percent

Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 50 percent

Landform: Mountain slope

Positas and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 50 percent

Landform: Fan remnant, stream terrace

Xerorthents and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 30 to 60 percent

Landform: Mountain slope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 75 percent

Landform: Seep

660—Elkhills-Legray complex, 15 to 30 percent slopes

Map unit setting

General location: The Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 470 to 1,075 feet (144 to 329 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Elkhills and similar soils—70 percent

Legray and similar soils—20 percent

Minor components—10 percent

Characteristics of Elkhills and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Uplifted alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam

A2—4 to 10 inches; sandy loam

C1—10 to 27 inches; sandy loam

C2—27 to 34 inches; sandy loam

C3—34 to 52 inches; coarse sandy loam

C4—52 to 65 inches; coarse sandy loam

Characteristics of Legray and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 2 to 10 percent by subrounded cobbles and 10 to 30 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; cobbly sandy loam

Bw—4 to 13 inches; cobbly sandy loam

Bk—13 to 26 inches; very gravelly sandy loam

Btk—26 to 32 inches; very cobbly loamy sand

Bt1—32 to 39 inches; very cobbly loamy sand

Bt2—39 to 48 inches; gravelly loamy sand

C1—48 to 61 inches; gravelly loamy sand

C2—61 to 65 inches; very cobbly loamy sand

Minor components

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 5 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Hillbrick and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 1 percent

Slope: 15 to 30 percent

Landform: Hillslope

Ballinger and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 15 to 30 percent

Landform: Hillslope

661—Elkhills-Legray complex, 30 to 50 percent slopes

Map unit setting

General location: The Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 650 to 1,465 feet (199 to 447 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Elkhills and similar soils—40 percent

Legray and similar soils—40 percent

Minor components—20 percent

Characteristics of Elkhills and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Uplifted alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam

A2—4 to 10 inches; sandy loam

C1—10 to 27 inches; sandy loam

C2—27 to 34 inches; sandy loam

C3—34 to 52 inches; coarse sandy loam

C4—52 to 65 inches; coarse sandy loam

Characteristics of Legray and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 10 to 30 percent by coarse, subrounded gravel and 2 to 10 percent by subrounded cobbles

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; cobbly sandy loam

Bw—4 to 13 inches; cobbly sandy loam

Bk—13 to 26 inches; very gravelly sandy loam

Btk—26 to 32 inches; very cobbly loamy sand

Bt1—32 to 39 inches; very cobbly loamy sand

Bt2—39 to 48 inches; gravelly loamy sand

C1—48 to 61 inches; gravelly loamy sand

C2—61 to 65 inches; very cobbly loamy sand

Minor components

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 5 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 30 to 50 percent

Landform: Hillslope

Hillbrick and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 30 to 50 percent

Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 50 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 1 percent

Slope: 30 to 50 percent

Landform: Hillslope

Ballinger and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 30 to 50 percent

Landform: Hillslope

670—Harrisranch-Rock outcrop complex, 50 to 75 percent slopes

Map unit setting

General location: Transverse Range and associated areas

MLRA: 20—Southern California Mountains

Landscape: Mountains

Elevation: 2,305 to 5,885 feet (704 to 1,794 meters)

Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)

Mean annual air temperature: 57 to 60 degrees F (14 to 16 degrees C)

Frost-free period: 150 to 225 days

Map unit composition

Harrisranch and similar soils—60 percent

Rock outcrop—20 percent

Minor components—20 percent

Characteristics of Harrisranch and similar soils

Slope: 50 to 75 percent

Landform: Mountain slope

Parent material: Colluvium derived from sandstone

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.5 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; sandy loam

Bt1—3 to 23 inches; sandy loam

Bt2—23 to 43 inches; sandy loam

C—43 to 65 inches; sandy loam

Characteristics of Rock outcrop

Slope: 50 to 75 percent

Landform: Mountain slope

Kind of rock: Granitic rock

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Ballinger and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 50 to 75 percent

Landform: Hillslope

Pleito and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 40 to 60 percent

Landform: Fan remnant

Calleguas and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 50 to 75 percent

Landform: Hillslope

Badlands

Percentage of component in the map unit: About 2 percent

Slope: 20 to 100 percent

Landform: Mountain slope

Xeric Torriorthents and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 50 to 100 percent

Landform: Escarpment, fan remnant, stream terrace

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 15 to 75 percent

Landform: Drainageway, seep

680—Milham sandy loam, 0 to 5 percent slopes

Map unit setting

General location: Near the south end of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 575 to 870 feet (176 to 266 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 61 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Milham and similar soils—90 percent

Minor components—10 percent

Characteristics of Milham and similar soils

Slope: 0 to 5 percent

Landform: Alluvial fan

Parent material: Calcareous alluvium derived from sedimentary and granitic rock

Typical vegetation: None assigned

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Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.9 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): 3e-1

Land capability classification (nonirrigated areas): 7e

Farmland classification: Farmland of statewide importance

Representative profile

A—0 to 5 inches; sandy loam

BA1—5 to 12 inches; sandy loam

BA2—12 to 18 inches; sandy loam

Btk1—18 to 24 inches; sandy clay loam

Btk2—24 to 33 inches; sandy clay loam

Btk3—33 to 43 inches; coarse sandy loam

Btk4—43 to 55 inches; sandy clay loam

2C—55 to 60 inches; gravelly loamy sand

Minor components

Cerini and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 0 to 5 percent

Landform: Alluvial fan

Kimberlina and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 9 percent

Landform: Recent alluvial fan

Granoso and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 1 percent

Landform: Channel, flood plain

Tupman and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 5 percent

Landform: Fan remnant, stream terrace

690—Dibble-Geghus complex, 50 to 75 percent slopes

Map unit setting

General location: Transverse Range and associated areas

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 2,410 to 5,440 feet (735 to 1,659 meters)

Mean annual precipitation: 10 to 20 inches (254 to 508 millimeters)

Mean annual air temperature: 57 to 65 degrees F (14 to 18 degrees C)

Frost-free period: 150 to 225 days

Map unit composition

Dibble and similar soils—45 percent

Geghus and similar soils—40 percent

Minor components—15 percent

Characteristics of Dibble and similar soils

Slope: 50 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 20 to 35 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 5.2 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; gravelly loam

Bt1—3 to 12 inches; clay loam

Bt2—12 to 22 inches; clay loam

Bt3—22 to 31 inches; clay loam

Bt4—31 to 38 inches; very gravelly clay loam

Cr—38 to 48 inches; soft, weathered bedrock

Characteristics of Geghus and similar soils

Slope: 50 to 70 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 10.0 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam

Bt1—2 to 6 inches; loam

Bt2—6 to 15 inches; loam

Btk1—15 to 29 inches; clay loam

Btk2—29 to 44 inches; clay loam

Btk3—44 to 54 inches; clay loam

Btk4—54 to 62 inches; loam

Minor components

Balcom and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 9 to 30 percent

Landform: Hillslope

Bitcreek and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 9 to 15 percent

Landform: Hillslope

Calleguas and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 50 to 75 percent

Landform: Hillslope

Pleito and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 40 to 50 percent

Landform: Fan remnant

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 9 to 75 percent

Landform: Drainageway, seep

Loslobos and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 9 to 30 percent

Landform: Hillslope

Xeric Torriorthents and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 50 to 100 percent

Landform: Escarpment, fan remnant, stream terrace

700—Xerolls, loamy-skeletal-Los Gatos complex, 30 to 75 percent slopes

Map unit setting

General location: Transverse Range and associated areas

MLRA: 20—Southern California Mountains

Landscape: Mountains, hills

Soil Survey of Kern County, California, Southwest Part

Elevation: 2,775 to 5,750 feet (846 to 1,753 meters)

Mean annual precipitation: 10 to 14 inches (254 to 356 millimeters)

Mean annual air temperature: 57 to 60 degrees F (14 to 16 degrees C)

Frost-free period: 150 to 225 days

Map unit composition

Xerolls, loamy-skeletal, and similar soils—55 percent

Los Gatos and similar soils—30 percent

Minor components—15 percent

Characteristics of Xerolls, loamy-skeletal, and similar soils

Slope: 30 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 3.4 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 8 inches; loam

Bw—8 to 18 inches; extremely cobbly loam

Bt—18 to 38 inches; extremely cobbly loam

C—38 to 60 inches; extremely cobbly loam

Characteristics of Los Gatos and similar soils

Slope: 30 to 75 percent

Landform: Mountain slope

Parent material: Residuum weathered from sandstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 15 percent by subangular cobbles and 0 to 15 percent by coarse, subangular gravel

Depth to a restrictive feature: Lithic bedrock—25 to 41 inches

Available water capacity to a depth of 60 inches: About 3.8 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Oi—0 to 1 inch; slightly decomposed plant material

A—1 to 6 inches; loam

Bt1—6 to 10 inches; loam

Bt2—10 to 16 inches; loam

Bt3—16 to 24 inches; gravelly clay loam

Bt4—24 to 29 inches; extremely gravelly clay loam

R—29 to 39 inches; bedrock

Minor components

Harrisranch and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 2 to 15 percent

Landform: Mountain slope

Bitcreek and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 15 percent

Landform: Hillslope

Eaglerest and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 30 percent

Landform: Mountain slope

Positas and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 9 percent

Landform: Fan remnant, stream terrace

Lithic Xerorthents and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 30 to 60 percent

Landform: Mountain slope

Rock outcrop

Percentage of component in the map unit: About 1 percent

Slope: 30 to 60 percent

Landform: Hills, mountains

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 10 to 75 percent

Landform: Drainageway, seep

720—Friant-Geghus-Lithic Xerorthents complex, 30 to 60 percent slopes, thermic

Map unit setting

General location: Transverse Range and associated areas

MLRA: 15—Central California Coast Range

Landscape: Mountains

Soil Survey of Kern County, California, Southwest Part

Elevation: 2,425 to 4,645 feet (740 to 1,416 meters)

Mean annual precipitation: 10 to 20 inches (254 to 508 millimeters)

Mean annual air temperature: 57 to 65 degrees F (14 to 18 degrees C)

Frost-free period: 150 to 225 days

Map unit composition

Friant and similar soils—50 percent

Geghus and similar soils—20 percent

Lithic Xerorthents, thermic, and similar soils—20 percent

Minor components—10 percent

Characteristics of Friant and similar soils

Slope: 30 to 60 percent

Landform: Mountain slope

Parent material: Residuum weathered from schist

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 40 to 60 percent by fine, angular gravel

Depth to a restrictive feature: Lithic bedrock—4 to 20 inches

Available water capacity to a depth of 60 inches: About 0.5 inch (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 1 inch; very gravelly sandy loam

Bw—1 to 8 inches; gravelly loam

R—8 to 18 inches; bedrock

Characteristics of Geghus and similar soils

Slope: 30 to 60 percent

Landform: Mountain slope

Parent material: Residuum weathered from sandstone

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 5 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 10.0 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 2 inches; loam

Bt1—2 to 6 inches; loam

Bt2—6 to 15 inches; loam

Btk1—15 to 29 inches; clay loam

Btk2—29 to 44 inches; clay loam

Btk3—44 to 54 inches; clay loam

Btk4—54 to 62 inches; loam

Characteristics of Lithic Xerorthents, thermic, and similar soils

Slope: 30 to 60 percent

Landform: Mountain slope

Parent material: Residuum weathered from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 20 to 40 percent by coarse, subangular gravel

Depth to a restrictive feature: Lithic bedrock—4 to 16 inches

Available water capacity to a depth of 60 inches: About 0.6 inch (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 6 inches; gravelly sandy loam

R—6 to 12 inches; weathered bedrock

Minor components

Bitcreek and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 60 percent

Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 30 to 60 percent

Landform: Mountain slope

Positas and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 30 to 60 percent

Landform: Fan remnant, stream terrace

Eaglerest and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 15 to 30 percent

Landform: Mountain slope

Dibble and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 30 to 50 percent

Landform: Hillslope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 60 percent

Landform: Drainageway, flood plain, seep

724—Elkhills sandy loam, 30 to 60 percent slopes

Map unit setting

General location: Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 625 to 1,265 feet (191 to 386 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 64 degrees F (17 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Elkhills and similar soils—90 percent

Minor components—10 percent

Characteristics of Elkhills and similar soils

Slope: 30 to 60 percent

Landform: Hillslope

Parent material: Uplifted alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam

A2—4 to 10 inches; sandy loam

- C1—10 to 27 inches; sandy loam
- C2—27 to 34 inches; sandy loam
- C3—34 to 52 inches; coarse sandy loam
- C4—52 to 65 inches; coarse sandy loam

Minor components

Hillbrick and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 5 to 15 percent
Landform: Hillslope

Kimberlina and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 5 to 15 percent
Landform: Recent alluvial fan

Milagro and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 2 percent
Landform: Alluvial fan, fan skirt

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 5 percent
Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 5 to 15 percent
Landform: Hillslope

725—Sodic Haplocambids, thick, 9 to 15 percent slopes

Map unit setting

General location: Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley
MLRA: 17—Sacramento and San Joaquin Valleys
Landscape: Hills
Elevation: 1,095 to 1,160 feet (334 to 354 meters)
Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)
Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)
Frost-free period: 240 to 300 days

Map unit composition

Sodic Haplocambids, thick, and similar soils—85 percent
Minor components—15 percent

Characteristics of Sodic Haplocambids, thick, and similar soils

Slope: 9 to 15 percent
Landform: Hillslope
Parent material: Alluvium derived from sedimentary and/or granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 2.5 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; loam

Bw—3 to 12 inches; loam

Bk—12 to 18 inches; loam

Bknz1—18 to 24 inches; silt loam

Bknz2—24 to 27 inches; fine sandy loam

Bnyz—27 to 42 inches; silty clay

Bnz1—42 to 54 inches; sandy clay loam

Bnz2—54 to 61 inches; sandy clay loam

Minor components

Hillbrick and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 9 to 15 percent

Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 9 to 15 percent

Landform: Hillslope

Torriorthents, very thin, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 9 to 15 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 9 to 15 percent

Landform: Hillslope

726—Sodic Haplocambids, thick, 15 to 30 percent slopes

Map unit setting

General location: Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 750 to 1,245 feet (229 to 381 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Sodic Haplocambids, thick, and similar soils—90 percent

Minor components—10 percent

Characteristics of Sodic Haplocambids, thick, and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 2.5 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; loam

Bw—3 to 12 inches; loam

Bk—12 to 18 inches; loam

Bknz1—18 to 24 inches; silt loam

Bknz2—24 to 27 inches; fine sandy loam

Bnyz—27 to 42 inches; silty clay

Bnz1—42 to 54 inches; sandy clay loam

Bnz2—54 to 61 inches; sandy clay loam

Minor components

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 5 to 15 percent

Landform: Hillslope

Hillbrick and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 5 to 15 percent

Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Hillslope

727—Sodic Haplocambids, thick, 30 to 50 percent slopes

Map unit setting

General location: Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 490 to 750 feet (150 to 230 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Sodic Haplocambids, thick, and similar soils—90 percent

Minor components—10 percent

Characteristics of Sodic Haplocambids, thick, and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 2.5 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; loam

Bw—3 to 12 inches; loam

Bk—12 to 18 inches; loam

Bknz1—18 to 24 inches; silt loam

Bknz2—24 to 27 inches; fine sandy loam

Bnyz—27 to 42 inches; silty clay

Bnz1—42 to 54 inches; sandy clay loam

Bnz2—54 to 61 inches; sandy clay loam

Minor components

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 30 to 50 percent

Landform: Hillslope

Hillbrick and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 50 percent

Landform: Hillslope

728—Torriorthents, very thin, 30 to 50 percent slopes

Map unit setting

General location: Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 645 to 1,210 feet (197 to 370 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 64 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Torriorthents, very thin, and similar soils—85 percent

Minor components—15 percent

Characteristics of Torriorthents, very thin, and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Lacustrine deposits and alluvium derived from granitic and sedimentary rocks

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 50 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.0 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Anz—0 to 7 inches; clay loam

Bknz1—7 to 16 inches; clay loam

Bknz2—16 to 23 inches; clay loam

Bnz—23 to 33 inches; clay loam

Cr—33 to 60 inches; soft, weathered bedrock

Minor components

Sodic Haplocambids, thick, and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 5 to 30 percent

Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 10 to 50 percent

Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 30 to 50 percent

Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 30 to 50 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 1 percent

Slope: 30 to 50 percent

Landform: Hillslope

Badlands

Percentage of component in the map unit: About 1 percent

Slope: 30 to 40 percent

Landform: Hillslope

729—Sodic Haplocambids, thick-Torriorthents, thin-Torriorthents, very thin, eroded, complex, 30 to 60 percent slopes

Map unit setting

General location: Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 495 to 1,160 feet (151 to 354 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Sodic Haplocambids, thick, and similar soils—40 percent

Torriorthents, thin, and similar soils—30 percent

Torriorthents, very thin, eroded, and similar soils—15 percent

Minor components—15 percent

Characteristics of Sodic Haplocambids, thick, and similar soils

Slope: 30 to 60 percent

Landform: Hillslope

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Soil Survey of Kern County, California, Southwest Part

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 2.5 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; loam

Bw—3 to 12 inches; loam

Bk—12 to 18 inches; loam

Bknz1—18 to 24 inches; silt loam

Bknz2—24 to 27 inches; fine sandy loam

Bnyz—27 to 42 inches; silty clay

Bnz1—42 to 54 inches; sandy clay loam

Bnz2—54 to 61 inches; sandy clay loam

Characteristics of Torriorthents, thin, and similar soils

Slope: 30 to 60 percent

Landform: Hillslope

Parent material: Alluvium derived from sandstone, shale, and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.2 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 2 inches; loam

A2—2 to 9 inches; loam

Bnz1—9 to 17 inches; clay loam

Bnz2—17 to 28 inches; clay loam

Bnz3—28 to 38 inches; sandy loam

Bnz4—38 to 41 inches; silty clay

Bnz5—41 to 60 inches; clay

Characteristics of Torriorthents, very thin, eroded, and similar soils

Slope: 30 to 60 percent

Landform: Hillslope

Parent material: Lacustrine deposits and alluvium derived from granitic and sedimentary rocks

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 50 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.0 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Anz—0 to 7 inches; clay loam

Bknz1—7 to 16 inches; clay loam

Bknz2—16 to 23 inches; clay loam

Bnz—23 to 33 inches; clay loam

Cr—33 to 60 inches; soft, weathered bedrock

Minor components

Pyxo and similar soils

Percentage of component in the map unit: About 7 percent

Slope: 15 to 50 percent

Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 30 to 60 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 2 percent

Slope: 30 to 60 percent

Landform: Hillslope

730—Haplocambids, thick-Elkhills complex, 9 to 15 percent slopes

Map unit setting

General location: None noted

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Soil Survey of Kern County, California, Southwest Part

Elevation: 315 to 1,250 feet (97 to 382 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 64 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Haplocambids, thick, and similar soils—50 percent

Elkhills and similar soils—30 percent

Minor components—20 percent

Characteristics of Haplocambids, thick, and similar soils

Slope: 9 to 15 percent

Landform: Hillslope

Parent material: Alluvium derived from sandstone, shale, and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.1 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 1 inch; loam

A2—1 to 5 inches; loam

Bw—5 to 16 inches; loam

Bknz1—16 to 20 inches; loam

Bknz2—20 to 26 inches; gravelly sandy clay loam

Bknz3—26 to 33 inches; gravelly sandy loam

Bknz4—33 to 54 inches; gravelly loam

Bknz5—54 to 60 inches; very gravelly loam

Characteristics of Elkhills and similar soils

Slope: 9 to 15 percent

Landform: Hillslope

Parent material: Uplifted alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam

A2—4 to 10 inches; sandy loam

C1—10 to 27 inches; sandy loam

C2—27 to 34 inches; sandy loam

C3—34 to 52 inches; coarse sandy loam

C4—52 to 65 inches; coarse sandy loam

Minor components

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 10 percent

Slope: 10 to 50 percent

Landform: Hillslope

Excelsior and similar soils

Percentage of component in the map unit: About 6 percent

Slope: 2 to 5 percent

Landform: Alluvial fan, stream terrace

Elkhills, saline-sodic, and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 9 to 15 percent

Landform: Hillslope

731—Haplocambids, thick-Elkhills complex, 15 to 30 percent slopes

Map unit setting

General location: Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 335 to 1,280 feet (103 to 391 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 64 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Haplocambids, thick, and similar soils—45 percent

Elkhills and similar soils—40 percent

Minor components—15 percent

Characteristics of Haplocambids, thick, and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Alluvium derived from sandstone, shale, and/or granitoid rock

Typical vegetation: None assigned

Soil Survey of Kern County, California, Southwest Part

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.1 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 1 inch; loam

A2—1 to 5 inches; loam

Bw—5 to 16 inches; loam

Bknz1—16 to 20 inches; loam

Bknz2—20 to 26 inches; gravelly sandy clay loam

Bknz3—26 to 33 inches; gravelly sandy loam

Bknz4—33 to 54 inches; gravelly loam

Bknz5—54 to 60 inches; very gravelly loam

Characteristics of Elkhills and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Uplifted alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam

A2—4 to 10 inches; sandy loam

C1—10 to 27 inches; sandy loam

C2—27 to 34 inches; sandy loam

C3—34 to 52 inches; coarse sandy loam

C4—52 to 65 inches; coarse sandy loam

Minor components

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 10 to 50 percent

Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 60 percent

Landform: Hillslope

Pyxo and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 50 percent

Landform: Hillslope

Elkhills, saline-sodic, and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 9 to 15 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 2 percent

Slope: 30 to 60 percent

Landform: Hillslope

732—Elkhills-Haplocambids, thick, complex, 30 to 50 percent slopes

Map unit setting

General location: Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 400 to 1,280 feet (123 to 391 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 62 to 64 degrees F (17 to 18 degrees C)

Frost-free period: 250 to 300 days

Map unit composition

Elkhills and similar soils—50 percent

Haplocambids, thick, and similar soils—40 percent

Minor components—10 percent

Characteristics of Elkhills and similar soils

Slope: 30 to 50 percent

Landform: Hillslope

Parent material: Uplifted alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Soil Survey of Kern County, California, Southwest Part

Present annual ponding: None
Surface runoff class: Medium
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam
A2—4 to 10 inches; sandy loam
C1—10 to 27 inches; sandy loam
C2—27 to 34 inches; sandy loam
C3—34 to 52 inches; coarse sandy loam
C4—52 to 65 inches; coarse sandy loam

Characteristics of Haplocambids, thick, and similar soils

Slope: 30 to 50 percent
Landform: Hillslope
Parent material: Alluvium derived from sandstone, shale, and/or granitoid rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 7.1 inches (moderate)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: High
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 1 inch; loam
A2—1 to 5 inches; loam
Bw—5 to 16 inches; loam
Bknz1—16 to 20 inches; loam
Bknz2—20 to 26 inches; gravelly sandy clay loam
Bknz3—26 to 33 inches; gravelly sandy loam
Bknz4—33 to 54 inches; gravelly loam
Bknz5—54 to 60 inches; very gravelly loam

Minor components

Elkhills, saline-sodic, and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 9 to 15 percent
Landform: Hillslope

Torriorthents, thin, and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 10 to 50 percent

Landform: Hillslope

Excelsior and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 2 to 5 percent

Landform: Alluvial fan, stream terrace

733—Sodic Haplocambids, thick-Torriorthents, thin, complex, 15 to 30 percent slopes

Map unit setting

General location: Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 295 to 1,180 feet (90 to 360 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Sodic Haplocambids, thick, and similar soils—50 percent

Torriorthents, thin, and similar soils—35 percent

Minor components—15 percent

Characteristics of Sodic Haplocambids, thick, and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 2.5 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; loam

Bw—3 to 12 inches; loam
Bk—12 to 18 inches; loam
Bknz1—18 to 24 inches; silt loam
Bknz2—24 to 27 inches; fine sandy loam
Bnyz—27 to 42 inches; silty clay
Bnz1—42 to 54 inches; sandy clay loam
Bnz2—54 to 61 inches; sandy clay loam

Characteristics of Torriorthents, thin, and similar soils

Slope: 15 to 30 percent
Landform: Hillslope
Parent material: Lacustrine deposits and alluvium derived from granitic and sedimentary rocks
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 6.2 inches (moderate)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: High
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 2 inches; loam
A2—2 to 9 inches; loam
Bnz1—9 to 17 inches; clay loam
Bnz2—17 to 28 inches; clay loam
Bnz3—28 to 38 inches; sandy loam
Bnz4—38 to 41 inches; silty clay
Bnz5—41 to 60 inches; clay

Minor components

Torriorthents, very thin, and similar soils

Percentage of component in the map unit: About 6 percent
Slope: 15 to 50 percent
Landform: Hillslope

Elkhills, saline-sodic, and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 9 to 15 percent
Landform: Hillslope

Excelsior and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 2 to 5 percent
Landform: Alluvial fan, stream terrace

734—Sodic Haplocambids, thick-Torriorthents, very thin, eroded-Elkhills complex, 15 to 50 percent slopes

Map unit setting

General location: Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 310 to 1,280 feet (96 to 391 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Sodic Haplocambids, thick, and similar soils—40 percent

Torriorthents, very thin, eroded, and similar soils—25 percent

Elkhills and similar soils—24 percent

Minor components—11 percent

Characteristics of Sodic Haplocambids, thick, and similar soils

Slope: 15 to 50 percent

Landform: Hillslope

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 2.5 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; loam

Bw—3 to 12 inches; loam

Bk—12 to 18 inches; loam

Bknz1—18 to 24 inches; silt loam

Bknz2—24 to 27 inches; fine sandy loam

Bnyz—27 to 42 inches; silty clay

Bnz1—42 to 54 inches; sandy clay loam

Bnz2—54 to 61 inches; sandy clay loam

Characteristics of Torriorthents, very thin, eroded, and similar soils

Slope: 15 to 50 percent

Landform: Hillslope

Soil Survey of Kern County, California, Southwest Part

Parent material: Lacustrine deposits and alluvium derived from granitic and sedimentary rocks

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 50 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.0 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Anz—0 to 1 inch; clay loam

Bknz1—1 to 16 inches; clay loam

Bknz2—16 to 23 inches; clay loam

Bnz—23 to 33 inches; clay loam

Cr—33 to 60 inches; soft, weathered bedrock

Characteristics of Elkhills and similar soils

Slope: 15 to 50 percent

Landform: Hillslope

Parent material: Uplifted alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam

A2—4 to 10 inches; sandy loam

C1—10 to 27 inches; sandy loam

C2—27 to 34 inches; sandy loam

C3—34 to 52 inches; coarse sandy loam

C4—52 to 65 inches; coarse sandy loam

Minor components

Pyxo and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 50 percent

Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 50 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 3 percent

Slope: 15 to 50 percent

Landform: Hillslope

Ballinger and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 50 percent

Landform: Hillslope

**735—Sodic Haplocambids, thick-Elkhills-Torriorthents,
thin, complex, 30 to 60 percent slopes**

Map unit setting

General location: Buena Vista Hills and Elk Hills in the southwestern part of the San Joaquin Valley

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Hills

Elevation: 340 to 1,175 feet (105 to 359 meters)

Mean annual precipitation: 6 to 8 inches (152 to 203 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 240 to 300 days

Map unit composition

Sodic Haplocambids, thick, and similar soils—40 percent

Elkhills and similar soils—25 percent

Torriorthents, thin, and similar soils—20 percent

Minor components—15 percent

Characteristics of Sodic Haplocambids, thick, and similar soils

Slope: 30 to 60 percent

Landform: Hillslope

Parent material: Alluvium derived from sedimentary and/or granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 10 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 2.5 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Soil Survey of Kern County, California, Southwest Part

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; loam

Bw—3 to 12 inches; loam

Bk—12 to 18 inches; loam

Bknz1—18 to 24 inches; silt loam

Bknz2—24 to 27 inches; fine sandy loam

Bnyz—27 to 42 inches; silty clay

Bnz1—42 to 54 inches; sandy clay loam

Bnz2—54 to 61 inches; sandy clay loam

Characteristics of Elkhills and similar soils

Slope: 30 to 60 percent

Landform: Hillslope

Parent material: Uplifted alluvium derived from granitoid and/or sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.0 inches (moderate)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; sandy loam

A2—4 to 10 inches; sandy loam

C1—10 to 27 inches; sandy loam

C2—27 to 34 inches; sandy loam

C3—34 to 52 inches; coarse sandy loam

C4—52 to 65 inches; coarse sandy loam

Characteristics of Torriorthents, thin, and similar soils

Slope: 30 to 60 percent

Landform: Hillslope

Parent material: Alluvium derived from granitoid rock, sandstone, and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 6.2 inches (moderate)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: High
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 2 inches; loam
A2—2 to 9 inches; loam
Bnz1—9 to 17 inches; clay loam
Bnz2—17 to 28 inches; clay loam
Bnz3—28 to 38 inches; sandy loam
Bnz4—38 to 41 inches; silty clay
Bnz5—41 to 60 inches; clay

Minor components

Pyxo and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 15 to 50 percent
Landform: Hillslope

Cochora and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 15 to 75 percent
Landform: Hillslope

Elkhills, saline-sodic, and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 9 to 15 percent
Landform: Hillslope

Ballinger and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 15 to 30 percent
Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 2 percent
Slope: 30 to 75 percent
Landform: Hillslope

750—Ballinger silty clay, 15 to 30 percent slopes

Map unit setting

General location: Tumbler Range, Transverse Range, and associated areas
MLRA: 15—Central California Coast Range
Landscape: Hills
Elevation: 1,800 to 3,615 feet (549 to 1,103 meters)
Mean annual precipitation: 6 to 12 inches (152 to 305 millimeters)

Soil Survey of Kern County, California, Southwest Part

Mean annual air temperature: 57 degrees F (14 degrees C)

Frost-free period: 180 to 250 days

Map unit composition

Ballinger and similar soils—85 percent

Minor components—15 percent

Characteristics of Ballinger and similar soils

Slope: 15 to 30 percent

Landform: Smooth hillslope

Parent material: Residuum weathered from mudstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 3.8 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): 4e-9

Land capability classification (nonirrigated areas): 4e-9

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; silty clay

Bky1—3 to 15 inches; silty clay

Bky2—15 to 23 inches; silty clay

Cky—23 to 36 inches; silty clay

Cr—36 to 46 inches; soft, weathered bedrock

Minor components

Aridisols and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 30 percent

Landform: Hillslope

Kettleman and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 30 percent

Landform: Hillslope

Shedd and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 30 percent

Landform: Hillslope

760—Ballinger silty clay, 45 to 75 percent slopes

Map unit setting

General location: Tumbler Range, Transverse Range, and associated areas

MLRA: 15—Central California Coast Range

Soil Survey of Kern County, California, Southwest Part

Landscape: Hills

Elevation: 1,800 to 3,585 feet (549 to 1,094 meters)

Mean annual precipitation: 6 to 12 inches (152 to 305 millimeters)

Mean annual air temperature: 57 degrees F (14 degrees C)

Frost-free period: 180 to 250 days

Map unit composition

Ballinger and similar soils—85 percent

Minor components—15 percent

Characteristics of Ballinger and similar soils

Slope: 45 to 75 percent

Landform: Smooth hillslope

Parent material: Residuum weathered from mudstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 3.8 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): 7e

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; silty clay

Bky1—3 to 15 inches; silty clay

Bky2—15 to 23 inches; silty clay

Cky—23 to 36 inches; silty clay

Cr—36 to 46 inches; soft, weathered bedrock

Minor components

Kettleman and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 40 to 50 percent

Landform: Hillslope

Rough broken land

Percentage of component in the map unit: About 5 percent

Slope: 45 to 75 percent

Landform: Hillslope

Shedd and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 45 to 75 percent

Landform: Hillslope

780—Stutzville silty clay loam, strongly saline, 0 to 2 percent slopes

Map unit setting

General location: Tumbler Range, Transverse Range, and associated areas

MLRA: 17—Sacramento and San Joaquin Valleys

Landscape: Valley

Elevation: 1,800 to 2,805 feet (549 to 855 meters)

Mean annual precipitation: 6 to 7 inches (152 to 178 millimeters)

Mean annual air temperature: 59 to 62 degrees F (15 to 17 degrees C)

Frost-free period: 190 to 220 days

Map unit composition

Stutzville and similar soils—85 percent

Minor components—15 percent

Characteristics of Stutzville and similar soils

Slope: 0 to 2 percent

Landform: Basin floor

Parent material: Alluvium derived from sedimentary rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Depth to a restrictive feature: Salic horizon—7 to 35 inches

Available water capacity to a depth of 60 inches: About 0.3 inch (very low)

Selected hydrologic properties

Present annual flooding: Occasional

Present annual ponding: None

Surface runoff class: Medium

Current water table: None noted

Natural drainage class: Poorly drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): 2s-6

Land capability classification (nonirrigated areas): 3s-6

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 1 inch; silty clay loam

Bnz—1 to 7 inches; silty clay loam

Cnz1—7 to 35 inches; silty clay loam

Cnz2—35 to 48 inches; silty clay

Cnz3—48 to 66 inches; silty clay

2Cnz4—66 to 72 inches; fine sand

Minor components

Panoche and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Typic Haplargids and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

Typic Haplocambids and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fan

850—Xerofluvents, 0 to 5 percent slopes

Map unit setting

General location: The Transverse Range

MLRA: 20—Southern California Mountains

Landscape: Valley

Elevation: 3,660 to 4,060 feet (1,117 to 1,238 meters)

Mean annual precipitation: 15 to 17 inches (381 to 432 millimeters)

Mean annual air temperature: 54 to 58 degrees F (12 to 14 degrees C)

Frost-free period: 200 to 250 days

Map unit composition

Xerofluvents and similar soils—85 percent

Minor components—15 percent

Characteristics of Xerofluvents and similar soils

Slope: 0 to 5 percent

Landform: Flood plain

Parent material: Alluvium derived from granitoid rock

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 15 to 40 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 3.0 inches (low)

Selected hydrologic properties

Present annual flooding: Frequent

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Somewhat excessively drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; gravelly sandy loam

C1—4 to 19 inches; extremely gravelly loamy sand

C2—19 to 31 inches; gravelly sand

C3—31 to 40 inches; extremely gravelly loamy sand

C4—40 to 53 inches; gravelly sand

C5—53 to 62 inches; gravelly sandy loam

Minor components

Xerorthents, sandy, and similar soils

Percentage of component in the map unit: About 10 percent

Slope: 0 to 5 percent

Landform: Flood plain

Riverwash

Percentage of component in the map unit: About 5 percent

Slope: 0 to 5 percent

Landform: Channel, flood plain

860—Hawk gravelly sandy loam, 9 to 15 percent slopes

Map unit setting

General location: The Transverse Range

MLRA: 20—Southern California Mountains

Landscape: Mountains

Elevation: 3,185 to 4,580 feet (972 to 1,397 meters)

Mean annual precipitation: 13 to 17 inches (330 to 432 millimeters)

Mean annual air temperature: 57 to 60 degrees F (14 to 16 degrees C)

Frost-free period: 200 to 250 days

Map unit composition

Hawk and similar soils—90 percent

Minor components—10 percent

Characteristics of Hawk and similar soils

Slope: 9 to 15 percent

Landform: Alluvial fan

Parent material: Alluvium derived from granite

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 10 to 55 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.6 inches (low)

Selected hydrologic properties

Present annual flooding: Rare

Present annual ponding: None

Surface runoff class: Low

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 3e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Oi—0 to 2 inches; gravelly slightly decomposed plant material

A1—2 to 7 inches; gravelly sandy loam

A2—7 to 17 inches; very gravelly sandy loam

A3—17 to 39 inches; very gravelly sandy loam

C—39 to 60 inches; very gravelly sandy loam

Minor components

Frazier and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 15 to 25 percent

Landform: Mountain slope

Gorman and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 15 to 50 percent

Landform: Mountain slope

Chuchupate and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 50 to 75 percent

Landform: Mountain slope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 0 to 15 percent

Landform: Drainageway, flood plain

870—Frazier very gravelly sandy loam, 50 to 75 percent slopes

Map unit setting

General location: The Transverse Range

MLRA: 20—Southern California Mountains

Landscape: Mountains

Elevation: 2,100 to 5,245 feet (641 to 1,599 meters)

Mean annual precipitation: 13 to 17 inches (330 to 432 millimeters)

Mean annual air temperature: 57 to 60 degrees F (14 to 16 degrees C)

Frost-free period: 200 to 250 days

Map unit composition

Frazier and similar soils—80 percent

Minor components—20 percent

Characteristics of Frazier and similar soils

Slope: 50 to 75 percent

Landform: Mountain slope

Parent material: Colluvium derived from granite

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 75 percent by coarse, subangular gravel

Depth to a restrictive feature: Lithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 1.0 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; very gravelly sandy loam

Bt—4 to 12 inches; extremely gravelly sandy loam
C—12 to 23 inches; extremely gravelly sandy loam
R—23 to 33 inches; bedrock

Minor components

Chuchupate and similar soils

Percentage of component in the map unit: About 10 percent

Slope: 50 to 75 percent

Landform: Mountain slope

Hawk and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 9 to 15 percent

Landform: Alluvial fan

Gorman and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 15 to 50 percent

Landform: Mountain slope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 10 to 75 percent

Landform: Seep

880—Chuchupate gravelly sandy loam, 50 to 75 percent slopes

Map unit setting

General location: The Transverse Range near Lebec

MLRA: 20—Southern California Mountains

Landscape: Mountains

Elevation: 3,200 to 5,225 feet (976 to 1,594 meters)

Mean annual precipitation: 13 to 17 inches (330 to 432 millimeters)

Mean annual air temperature: 54 to 59 degrees F (12 to 15 degrees C)

Frost-free period: 180 to 230 days

Map unit composition

Chuchupate and similar soils—90 percent

Minor components—10 percent

Characteristics of Chuchupate and similar soils

Slope: 50 to 75 percent

Landform: Mountain slope

Parent material: Residuum weathered from schist

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 20 to 50 percent by coarse, subangular gravel

Depth to a restrictive feature: Lithic bedrock—26 to 46 inches

Available water capacity to a depth of 60 inches: About 2.5 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Oi—0 to 1 inch; gravelly slightly decomposed plant material
A—1 to 10 inches; gravelly sandy loam
Bt1—10 to 21 inches; very gravelly sandy loam
Bt2—21 to 36 inches; very gravelly sandy loam
R—36 to 46 inches; bedrock

Minor components

Frazier and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 15 to 25 percent
Landform: Mountain slope

Gorman and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 15 to 50 percent
Landform: Mountain slope

Hawk and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 9 to 15 percent
Landform: Alluvial fan

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 9 to 50 percent
Landform: Flood plain, seep

890—Gorman sandy loam, 15 to 50 percent slopes

Map unit setting

General location: The Transverse Range
MLRA: 20—Southern California Mountains
Landscape: Mountains
Elevation: 4,060 to 4,970 feet (1,238 to 1,515 meters)
Mean annual precipitation: 13 to 17 inches (330 to 432 millimeters)
Mean annual air temperature: 54 to 59 degrees F (12 to 15 degrees C)
Frost-free period: 180 to 230 days

Map unit composition

Gorman and similar soils—90 percent
Minor components—10 percent

Characteristics of Gorman and similar soils

Slope: 15 to 50 percent
Landform: Mountain slope
Parent material: Colluvium derived from granitoid rock

Soil Survey of Kern County, California, Southwest Part

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 10 to 20 percent by coarse, subangular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 8.5 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 7 inches; sandy loam

Bt1—7 to 15 inches; sandy loam

Bt2—15 to 23 inches; loam

Bt3—23 to 37 inches; sandy clay loam

Bt4—37 to 48 inches; sandy clay loam

Bt5—48 to 61 inches; clay loam

Minor components

Frazier and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 15 to 25 percent

Landform: Mountain slope

Hawk and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 9 to 15 percent

Landform: Alluvial fan

Chuchupate and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 50 to 75 percent

Landform: Mountain slope

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 9 to 50 percent

Landform: Seep

919—Zonap-Harrisranch-Beam complex, 15 to 50 percent slopes

Map unit setting

General location: The Transverse Range

MLRA: 15—Central California Coast Range

Landscape: Mountains, hills

Elevation: 3,450 to 4,685 feet (1,053 to 1,429 meters)

Soil Survey of Kern County, California, Southwest Part

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 60 to 64 degrees F (16 to 18 degrees C)

Frost-free period: 150 to 250 days

Map unit composition

Zonap and similar soils—40 percent

Harrisranch and similar soils—30 percent

Beam and similar soils—15 percent

Minor components—15 percent

Characteristics of Zonap and similar soils

Slope: 15 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 30 percent by coarse, angular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.3 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; fine sandy loam

A2—3 to 10 inches; fine sandy loam

C—10 to 26 inches; fine sandy loam

Cr—26 to 36 inches; soft, weathered bedrock

Characteristics of Harrisranch and similar soils

Slope: 15 to 50 percent

Landform: Mountain slope

Parent material: Residuum weathered from sandstone

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 percent

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.5 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; sandy loam

Bt1—3 to 23 inches; sandy loam

Bt2—23 to 43 inches; sandy loam

C—43 to 65 inches; sandy loam

Characteristics of Beam and similar soils

Slope: 15 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from calcareous shale, siltstone, and/or conglomerate

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 40 percent by coarse, subangular gravel

Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches

Available water capacity to a depth of 60 inches: About 1.9 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; fine sandy loam

Bk—3 to 15 inches; fine sandy loam

Cr—15 to 25 inches; soft, weathered bedrock

Minor components

Ballinger and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 30 percent

Landform: Hillslope

Xeric Torriorthents, very gravelly, and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 30 percent

Landform: Hillslope

Lithic Xerorthents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 15 to 30 percent

Landform: Hillslope

Xerofluvents and similar soils

Percentage of component in the map unit: About 2 percent

Slope: 1 to 5 percent

Landform: Drainageway

930—Bitcreek-Shimmon-Balhud complex, 9 to 50 percent slopes

Map unit setting

General location: Bittercreek Wildlife Refuge and adjacent areas

MLRA: 15—Central California Coast Range

Landscape: Hills, valleys

Elevation: 1,325 to 4,490 feet (405 to 1,370 meters)

Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)

Mean annual air temperature: 58 to 63 degrees F (14 to 17 degrees C)

Frost-free period: 180 to 235 days

Map unit composition

Bitcreek and similar soils—40 percent

Shimmon and similar soils—25 percent

Balhud and similar soils—15 percent

Minor components—20 percent

Characteristics of Bitcreek and similar soils

Slope: 9 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.6 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; sandy clay loam

A2—3 to 8 inches; sandy clay loam

ABt—8 to 19 inches; sandy clay loam

Bt1—19 to 31 inches; sandy clay loam

Bt2—31 to 38 inches; sandy clay loam

Bt3—38 to 60 inches; clay

Characteristics of Shimmon and similar soils

Slope: 9 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 10 to 40 percent by coarse, subangular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 3.2 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 1 inch; loam

A2—1 to 5 inches; loam

Bt1—5 to 11 inches; clay loam

Bt2—11 to 15 inches; clay loam

Bt3—15 to 21 inches; gravelly clay loam

Cr—21 to 31 inches; soft, weathered bedrock

Characteristics of Balhud and similar soils

Slope: 9 to 50 percent

Landform: Hillslope

Parent material: Colluvium derived from sandstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, subangular gravel

Depth to restrictive features: Paralithic bedrock—10 to 20 inches; lithic bedrock—12 to 28 inches

Available water capacity to a depth of 60 inches: About 1.7 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; loam

Bt—3 to 10 inches; clay loam
Cr—10 to 18 inches; soft, weathered bedrock
R—18 to 28 inches; bedrock

Minor components

Beam and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 5 to 30 percent
Landform: Hillslope

Ballinger and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 5 to 30 percent
Landform: Hillslope

Lithic Xerorthents and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 5 to 30 percent
Landform: Hillslope

Xeric Torriorthents, very gravelly, and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 5 to 30 percent
Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 2 percent
Slope: 5 to 30 percent
Landform: Hillslope, mountain slope

Xerofluvents and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 1 to 10 percent
Landform: Drainageway

Springs

Percentage of component in the map unit: About 1 percent
Slope: 1 to 30 percent
Landform: Drainageway, seep

932—Bitcreek-Shimmon-Balhud complex, 30 to 75 percent slopes

Map unit setting

General location: Bittercreek Wildlife Refuge and adjacent areas
MLRA: 15—Central California Coast Range
Landscape: Hills, valleys
Elevation: 1,570 to 4,370 feet (480 to 1,332 meters)
Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)
Mean annual air temperature: 58 to 63 degrees F (14 to 17 degrees C)
Frost-free period: 180 to 235 days

Map unit composition

Bitcreek and similar soils—40 percent
Shimmon and similar soils—25 percent

Balhud and similar soils—20 percent

Minor components—15 percent

Characteristics of Bitcreek and similar soils

Slope: 30 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.6 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; sandy clay loam

A2—3 to 8 inches; sandy clay loam

ABt—8 to 19 inches; sandy clay loam

Bt1—19 to 31 inches; sandy clay loam

Bt2—31 to 38 inches; sandy clay loam

Bt3—38 to 60 inches; clay

Characteristics of Shimmon and similar soils

Slope: 30 to 75 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 10 to 40 percent by coarse, subangular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 3.2 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

- A1—0 to 1 inch; loam
- A2—1 to 5 inches; loam
- Bt1—5 to 11 inches; clay loam
- Bt2—11 to 15 inches; clay loam
- Bt3—15 to 21 inches; gravelly clay loam
- Cr—21 to 31 inches; soft, weathered bedrock

Characteristics of Balhud and similar soils

- Slope:* 30 to 75 percent
- Landform:* Hillslope
- Parent material:* Colluvium derived from sandstone and/or shale
- Typical vegetation:* None assigned
- Percentage of the surface covered by rock fragments:* 0 to 20 percent by coarse, subangular gravel
- Depth to restrictive features:* Paralithic bedrock—10 to 20 inches; lithic bedrock—12 to 28 inches
- Available water capacity to a depth of 60 inches:* About 1.7 inches (very low)

Selected hydrologic properties

- Present annual flooding:* None
- Present annual ponding:* None
- Surface runoff class:* Very high
- Current water table:* None noted
- Natural drainage class:* Well drained
- Hydrologic soil group:* D

Interpretive groups

- Land capability classification (irrigated areas):* Not assigned
- Land capability classification (nonirrigated areas):* 7e
- Farmland classification:* Not prime farmland or farmland of statewide importance

Representative profile

- A—0 to 3 inches; loam
- Bt—3 to 10 inches; clay loam
- Cr—10 to 18 inches; soft, weathered bedrock
- R—18 to 28 inches; bedrock

Minor components

Ballinger and similar soils

- Percentage of component in the map unit:* About 3 percent
- Slope:* 15 to 30 percent
- Landform:* Hillslope

Beam and similar soils

- Percentage of component in the map unit:* About 3 percent
- Slope:* 15 to 50 percent
- Landform:* Hillslope

Lithic Xerorthents and similar soils

- Percentage of component in the map unit:* About 3 percent
- Slope:* 15 to 30 percent
- Landform:* Hillslope

Xeric Torriorthents, very gravelly, and similar soils

- Percentage of component in the map unit:* About 2 percent

Slope: 15 to 30 percent

Landform: Hillslope

Rock outcrop

Percentage of component in the map unit: About 2 percent

Slope: 5 to 30 percent

Landform: Hillslope, mountain slope

Xerofluvents and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 45 percent

Landform: Drainageway

Springs

Percentage of component in the map unit: About 1 percent

Slope: 5 to 45 percent

Landform: Drainageway, seep

940—Bitcreek sandy loam, 2 to 9 percent slopes

Map unit setting

General location: Bittercreek Wildlife Refuge and adjacent areas

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 2,845 to 3,660 feet (868 to 1,116 meters)

Mean annual precipitation: 9 to 12 inches (229 to 305 millimeters)

Mean annual air temperature: 58 to 63 degrees F (14 to 17 degrees C)

Frost-free period: 180 to 235 days

Map unit composition

Bitcreek and similar soils—90 percent

Minor components—10 percent

Characteristics of Bitcreek and similar soils

Slope: 2 to 9 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.6 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Prime farmland if irrigated

Representative profile

- A1—0 to 3 inches; sandy loam
- A2—3 to 8 inches; sandy clay loam
- ABt—8 to 19 inches; sandy clay loam
- Bt1—19 to 31 inches; sandy clay loam
- Bt2—31 to 38 inches; sandy clay loam
- Bt3—38 to 60 inches; clay

Minor components

Calleguas and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 2 to 9 percent
Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 2 to 15 percent
Landform: Mountain slope

Badlands

Percentage of component in the map unit: About 2 percent
Slope: 2 to 50 percent
Landform: Hillslope

Pleito and similar soils

Percentage of component in the map unit: About 2 percent
Slope: 2 to 9 percent
Landform: Fan remnant

Ballinger and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 2 to 9 percent
Landform: Hillslope

Seeps

Percentage of component in the map unit: About 1 percent
Slope: 0 to 9 percent
Landform: Drainageway, seep

950—Pleito-Ballinger-Balhud complex, 15 to 50 percent slopes

Map unit setting

General location: Bittercreek Wildlife Refuge and adjacent areas
MLRA: 15—Central California Coast Range
Landscape: Hills
Elevation: 2,955 to 4,080 feet (902 to 1,245 meters)
Mean annual precipitation: 6 to 12 inches (152 to 305 millimeters)
Mean annual air temperature: 57 to 64 degrees F (14 to 18 degrees C)
Frost-free period: 180 to 300 days

Map unit composition

Pleito and similar soils—40 percent
Ballinger and similar soils—25 percent
Balhud and similar soils—20 percent
Minor components—15 percent

Characteristics of Pleito and similar soils

Slope: 15 to 50 percent

Landform: Fan remnant

Parent material: Alluvium derived from mixed sources

Typical vegetation: Grasses and forbs

Percentage of the surface covered by rock fragments: 0 to 15 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 4.6 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

Ap1—0 to 4 inches; sandy clay loam

Ap2—4 to 8 inches; sandy clay loam

Bw—8 to 18 inches; sandy clay loam

Bk1—18 to 25 inches; sandy clay loam

Bk2—25 to 32 inches; gravelly sandy clay loam

Bk3—32 to 46 inches; gravelly sandy clay loam

Bk4—46 to 56 inches; gravelly sandy clay loam

Bk5—56 to 64 inches; gravelly sandy clay loam

2Btk—64 to 80 inches; gravelly sandy clay loam

Characteristics of Ballinger and similar soils

Slope: 15 to 50 percent

Landform: Hillslope

Parent material: Residuum weathered from mudstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 10 to 20 percent by coarse, subangular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.4 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

- A—0 to 3 inches; silty clay
- Bky1—3 to 15 inches; silty clay
- Bky2—15 to 23 inches; silty clay
- Cky—23 to 36 inches; silty clay
- Cr—36 to 46 inches; soft, weathered bedrock

Characteristics of Balhud and similar soils

- Slope:* 15 to 50 percent
- Landform:* Hillslope
- Parent material:* Colluvium derived from sandstone and/or shale
- Typical vegetation:* None assigned
- Percentage of the surface covered by rock fragments:* 0 to 20 percent by coarse, subangular gravel
- Depth to restrictive features:* Paralithic bedrock—10 to 20 inches; lithic bedrock—12 to 28 inches
- Available water capacity to a depth of 60 inches:* About 1.7 inches (very low)

Selected hydrologic properties

- Present annual flooding:* None
- Present annual ponding:* None
- Surface runoff class:* Very high
- Current water table:* None noted
- Natural drainage class:* Well drained
- Hydrologic soil group:* D

Interpretive groups

- Land capability classification (irrigated areas):* Not assigned
- Land capability classification (nonirrigated areas):* 7e
- Farmland classification:* Not prime farmland or farmland of statewide importance

Representative profile

- A—0 to 3 inches; loam
- Bt—3 to 10 inches; clay loam
- Cr—10 to 18 inches; soft, weathered bedrock
- R—18 to 28 inches; bedrock

Minor components

Harrisranch and similar soils

- Percentage of component in the map unit:* About 5 percent
- Slope:* 15 to 50 percent
- Landform:* Mountain slope

Pleito and similar soils

- Percentage of component in the map unit:* About 4 percent
- Slope:* 15 to 50 percent
- Landform:* Fan remnant

Calleguas and similar soils

- Percentage of component in the map unit:* About 3 percent
- Slope:* 15 to 50 percent
- Landform:* Hillslope

Badlands

- Percentage of component in the map unit:* About 2 percent
- Slope:* 15 to 50 percent
- Landform:* Hillslope

Unnamed depressional and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 0 to 9 percent

Landform: Depression

951—Bitcreek-Balhud-Ballinger complex, 5 to 30 percent slopes

Map unit setting

General location: Bittercreek Wildlife Refuge and adjacent areas

MLRA: 15—Central California Coast Range

Landscape: Hills

Elevation: 2,740 to 4,590 feet (836 to 1,400 meters)

Mean annual precipitation: 9 to 12 inches (228 to 305 millimeters)

Mean annual air temperature: 57 to 63 degrees F (14 to 17 degrees C)

Frost-free period: 180 to 300 days

Map unit composition

Bitcreek and similar soils—40 percent

Balhud and similar soils—30 percent

Ballinger and similar soils—15 percent

Minor components—15 percent

Characteristics of Bitcreek and similar soils

Slope: 5 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from sandstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 7.6 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: High

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 3 inches; sandy clay loam

A2—3 to 8 inches; sandy clay loam

ABt—8 to 19 inches; sandy clay loam

Bt1—19 to 31 inches; sandy clay loam

Bt2—31 to 38 inches; sandy clay loam

Bt3—38 to 60 inches; clay

Characteristics of Balhud and similar soils

Slope: 5 to 30 percent

Landform: Hillslope

Parent material: Colluvium derived from sandstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, subangular gravel

Depth to restrictive features: Paralithic bedrock—10 to 20 inches; lithic bedrock—12 to 28 inches

Available water capacity to a depth of 60 inches: About 1.7 inches (very low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; loam

Bt—3 to 10 inches; clay loam

Cr—10 to 18 inches; soft, weathered bedrock

R—18 to 28 inches; bedrock

Characteristics of Ballinger and similar soils

Slope: 15 to 30 percent

Landform: Hillslope

Parent material: Residuum weathered from mudstone and/or shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 10 to 20 percent by coarse, subangular gravel

Depth to a restrictive feature: Paralithic bedrock—20 to 40 inches

Available water capacity to a depth of 60 inches: About 4.4 inches (low)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

Surface runoff class: Very high

Current water table: None noted

Natural drainage class: Well drained

Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 7e

Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; silty clay

Bky1—3 to 15 inches; silty clay

Bky2—15 to 23 inches; silty clay

Cky—23 to 36 inches; silty clay
Cr—36 to 46 inches; soft, weathered bedrock

Minor components

Pleito and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 5 to 30 percent
Landform: Fan remnant

Calleguas and similar soils

Percentage of component in the map unit: About 5 percent
Slope: 5 to 30 percent
Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 5 to 30 percent
Landform: Mountain slope

Badlands

Percentage of component in the map unit: About 2 percent
Slope: 5 to 30 percent
Landform: Hillslope

954—Typic Haploxeralfs, fine-Haploxerolls, coarse-loamy, complex, 15 to 60 percent slopes

Map unit setting

General location: Transverse Range and associated areas
MLRA: 15—Central California Coast Range
Landscape: Mountains
Elevation: 3,275 to 5,650 feet (999 to 1,723 meters)
Mean annual precipitation: 9 to 14 inches (229 to 356 millimeters)
Mean annual air temperature: 56 to 62 degrees F (13 to 17 degrees C)
Frost-free period: 150 to 225 days

Map unit composition

Typic Haploxeralfs, fine, and similar soils—50 percent
Haploxerolls, coarse-loamy, and similar soils—30 percent
Minor components—20 percent

Characteristics of Typic Haploxeralfs, fine, and similar soils

Slope: 15 to 60 percent
Landform: Mountain slope
Parent material: Residuum weathered from sedimentary rock
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 10 to 30 percent by coarse, angular gravel
Depth to a restrictive feature: Paralithic bedrock—20 to 34 inches
Available water capacity to a depth of 60 inches: About 2.7 inches (low)
Selected hydrologic properties
Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high

Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 1 inch; clay loam
Bt1—1 to 12 inches; clay loam
Bt2—12 to 19 inches; very gravelly clay
Bt3—19 to 24 inches; gravelly clay
Cr—24 to 34 inches; soft, weathered bedrock

Characteristics of Haploxerolls, coarse-loamy, and similar soils

Slope: 15 to 60 percent
Landform: Mountain slope
Parent material: Residuum weathered from sandstone
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 to 10 percent by subangular stones, 0 to 10 percent by angular cobbles, and 10 to 30 percent by coarse, angular gravel
Depth to a restrictive feature: Lithic bedrock—20 to 40 inches
Available water capacity to a depth of 60 inches: About 1.7 inches (very low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A1—0 to 4 inches; gravelly sandy loam
A2—4 to 17 inches; very stony sandy loam
C—17 to 34 inches; extremely cobbly sandy loam
R—34 to 44 inches; bedrock

Minor components

Eaglerest and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 15 to 30 percent
Landform: Mountain slope

Bitcreek and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 2 to 15 percent
Landform: Hillslope

Dibble and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 50 percent

Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 15 percent

Landform: Mountain slope

Lithic Xerorthents and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 30 to 60 percent

Landform: Mountain slope

Positas and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 9 percent

Landform: Fan remnant, stream terrace

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 10 to 50 percent

Landform: Drainageway, seep

955—Calcic Haploxerepts-Xerorthents, shallow-Badlands complex, 30 to 100 percent slopes

Map unit setting

General location: Transverse Range and associated areas

MLRA: 15—Central California Coast Range

Landscape: Mountains, hills

Elevation: 1,525 to 4,700 feet (466 to 1,433 meters)

Mean annual precipitation: 9 to 14 inches (229 to 356 millimeters)

Mean annual air temperature: 56 to 62 degrees F (13 to 17 degrees C)

Frost-free period: 150 to 225 days

Map unit composition

Calcic Haploxerepts and similar soils—30 percent

Xerorthents, shallow, and similar soils—25 percent

Badlands—20 percent

Minor components—25 percent

Characteristics of Calcic Haploxerepts and similar soils

Slope: 30 to 100 percent

Landform: Escarpment

Parent material: Residuum weathered from sandstone and shale

Typical vegetation: None assigned

Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, subrounded gravel

Restrictive feature: None noted

Available water capacity to a depth of 60 inches: About 9.6 inches (high)

Selected hydrologic properties

Present annual flooding: None

Present annual ponding: None

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Surface runoff class: High
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 4 inches; clay loam
Bk1—4 to 9 inches; clay loam
Bk2—9 to 18 inches; gravelly clay loam
Bk3—18 to 25 inches; clay loam
Cy—25 to 37 inches; clay loam
C—37 to 60 inches; loam

Characteristics of Xerorthents, shallow, and similar soils

Slope: 30 to 100 percent
Landform: Hillslope
Parent material: Residuum weathered from sandstone and shale
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel
Depth to a restrictive feature: Paralithic bedrock—10 to 20 inches
Available water capacity to a depth of 60 inches: About 1.8 inches (very low)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: D

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 8 inches; sandy clay loam
C—8 to 13 inches; sandy loam
Cr—13 to 23 inches; soft, weathered bedrock

Characteristics of Badlands

Slope: 30 to 100 percent
Landform: Escarpment
Kind of material: Residuum weathered from sandstone and shale
Typical vegetation: None assigned

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Very high

Current water table: None noted
Hydrologic soil group: None assigned

Interpretive groups

Land capability classification (irrigated areas): Not assigned

Land capability classification (nonirrigated areas): 8

Farmland classification: Not prime farmland or farmland of statewide importance

Minor components

Eaglerest and similar soils

Percentage of component in the map unit: About 5 percent

Slope: 15 to 30 percent

Landform: Mountain slope

Bitcreek and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 2 to 15 percent

Landform: Hillslope

Dibble and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 30 to 50 percent

Landform: Hillslope

Harrisranch and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 2 to 15 percent

Landform: Mountain slope

Lithic Xerorthents and similar soils

Percentage of component in the map unit: About 4 percent

Slope: 30 to 60 percent

Landform: Mountain slope

Positas and similar soils

Percentage of component in the map unit: About 3 percent

Slope: 2 to 9 percent

Landform: Fan remnant, stream terrace

Unnamed wet soil and similar soils

Percentage of component in the map unit: About 1 percent

Slope: 5 to 75 percent

Landform: Drainageway, flood plain, seep

970—Harrisranch-Bitcreek complex, 9 to 50 percent slopes

Map unit setting

General location: Transverse Range and associated areas

MLRA: 15—Central California Coast Range

Landscape: Mountains, hills

Elevation: 3,720 to 4,690 feet (1,134 to 1,431 meters)

Mean annual precipitation: 8 to 12 inches (203 to 305 millimeters)

Mean annual air temperature: 58 to 64 degrees F (14 to 18 degrees C)

Frost-free period: 150 to 235 days

Map unit composition

Harrisranch and similar soils—50 percent
Bitcreek and similar soils—35 percent
Minor components—15 percent

Characteristics of Harrisranch and similar soils

Slope: 9 to 50 percent
Landform: Mountain slope
Parent material: Residuum weathered from sandstone
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 percent
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 7.5 inches (high)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: Medium
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: B

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 3e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

A—0 to 3 inches; sandy loam
Bt1—3 to 23 inches; sandy loam
Bt2—23 to 43 inches; sandy loam
C—43 to 65 inches; sandy loam

Characteristics of Bitcreek and similar soils

Slope: 9 to 50 percent
Landform: Hillslope
Parent material: Residuum weathered from sandstone and/or shale
Typical vegetation: None assigned
Percentage of the surface covered by rock fragments: 0 to 20 percent by coarse, angular gravel
Restrictive feature: None noted
Available water capacity to a depth of 60 inches: About 7.6 inches (high)

Selected hydrologic properties

Present annual flooding: None
Present annual ponding: None
Surface runoff class: High
Current water table: None noted
Natural drainage class: Well drained
Hydrologic soil group: C

Interpretive groups

Land capability classification (irrigated areas): Not assigned
Land capability classification (nonirrigated areas): 7e
Farmland classification: Not prime farmland or farmland of statewide importance

Representative profile

- A1—0 to 3 inches; sandy clay loam
- A2—3 to 8 inches; sandy clay loam
- ABt—8 to 19 inches; sandy clay loam
- Bt1—19 to 31 inches; sandy clay loam
- Bt2—31 to 38 inches; sandy clay loam
- Bt3—38 to 60 inches; clay

Minor components

Calleguas and similar soils

Percentage of component in the map unit: About 4 percent
Slope: 15 to 50 percent
Landform: Hillslope

Lithic Xerorthents and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 9 to 50 percent
Landform: Hillslope

Pleito and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 9 to 50 percent
Landform: Fan remnant

Xeric Torriorthents, very gravelly, and similar soils

Percentage of component in the map unit: About 3 percent
Slope: 9 to 50 percent
Landform: Hillslope

Badlands

Percentage of component in the map unit: About 1 percent
Slope: 9 to 50 percent
Landform: Hillslope

Unnamed depressional and similar soils

Percentage of component in the map unit: About 1 percent
Slope: 0 to 9 percent
Landform: Depression

980—Area not surveyed, access denied

Map unit setting

General location: Transverse Range and associated areas, generally west of
Interstate 5
MLRA: 18—Sierra Nevada Foothills

Map unit composition

Area not surveyed, access denied—100 percent

W—Water

Map unit setting

MLRA: 17—Sacramento and San Joaquin Valleys

Map unit composition

Water—100 percent

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

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

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the potential of the soils for the use. Terms for the limitation classes are *no limitations* or *limitations*, or they are *not limited*, *somewhat limited*, and *very limited*. Terms indicating potential are *good*, *fair*, and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact

on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Irrigated Crops and Pasture

By Blake Sanden, Irrigation and Agronomy Advisor, University of California Cooperative Extension.

General management needed for irrigated crops and pasture is suggested in this section. The system of land capability classification used by the Natural Resources Conservation Service is explained, major land resource areas (MLRAs) are identified, two kinds of important farmland are described, the California Storie index is explained, and saline-sodic soils are described.

Planners of management systems for individual fields or farms should consider the soil properties information given in the description of each soil under the heading "Detailed Soil Map Units" and in various tables. General management factors and considerations are described in this section. More specific field information can be obtained from the local office of the Natural Resources Conservation Service or from the county office of Cooperative Extension.

Management Practices

The survey area supports a wide diversity of both permanent plants (trees and vines) and annual crops. The following paragraphs focus mainly on management practices that affect annual crops. Where appropriate, similar and alternative practices for permanent plants are discussed.

Needed management practices include, but are not limited to, chiseling and subsoiling, post-plant cultivation for weed control, crop rotation, conservation tillage, cover crops, crop residue management, hayland management, irrigation land leveling, irrigation water management, soil fumigation, winter and prescribed grazing, subsurface water removal, and salinity management. Technical terms used in this section are defined in the Glossary.

Chiseling and subsoiling decrease soil density in the plant bed and/or breakup plowpans that form during repeated disking. They increase the effective root density and depth of rooting in most soils in the survey area. Chiseling to a depth of 15 to 18 inches enhances permeability and internal drainage and allows deeper root penetration. This practice is essential on the significant acreage planted to carrots and potatoes in the survey area. In Garces, Millox, Lokern, Calflax, and other soils with a surface layer of clay loam, subsoiling to a depth of 24 to 36 inches every 3 to 5 years can improve drainage and leaching for the short term. Soils with a surface layer of clay or an increase in clay content in the subsoil, however, may rapidly return to their original condition. Conservation tillage or cropping in permanent beds and maximizing the preservation of old root channels can decrease the need for subsoiling. Some vineyards and orchards that are planted in spring are ripped to a depth of 3 feet during the previous fall or winter, but most are ripped to a depth of 5 or 6 feet with a slip plow (which is good for mixing layers) or with a deep chisel shank. Only a few university studies have examined the value of this practice. Evidence of a cost-effective benefit, especially where microirrigation systems are used, is marginal. The practice is almost universal, however, since growers have to live with the results for 20 to 40 years.

Post-plant cultivation for weed control is typically done once or twice, depending on the crop and how quickly the rows close with plant growth. Sweeps, cultivators, and furrowing shovels are typically used in a single pass. Some sodic Garces, Millox, and Lokern soils benefit from a second cultivation that breaks up sealing crusts that can form in the furrow on these soils. In some areas planted to "Round-up Ready" cotton and corn, only one pass of furrowing shovels is used to reform beds after planting. All

weeds are then eliminated with a glyphosate herbicide after the first irrigation. A wide variety of other herbicides also is used, either as a topical spray on emerged weeds or a pre-plant herbicide incorporated into the soil. The content of clay and organic matter in the soil can affect the application rates and final beneficial effects of these materials.

Crop rotation is a system of growing various sequential crops that are not susceptible to the same diseases, insect pests, and weeds. A successful crop rotation reduces cultural-pesticide costs and improves soil conditions. It helps to maintain crop yields that would otherwise decline if the same crop were planted every year. A crop rotation is recommended on nearly all tilled soils in the survey area and is a key pest management tool. An interesting exception is cotton production in some areas of clayey Buttonwillow soils, where serially planted cotton has been successfully grown for 20 years.

On irrigated cropland, this practice includes the rotation of various row and field crops and the return of crop residue to the soil. It may also include a cover crop of grasses or legumes to improve fertility and weed and pest control, especially in organic farming systems. Examples are cotton and winter grains and forage and alfalfa in rotation or beans, onions, carrots, potatoes, tomatoes, and alfalfa in rotation.

Conservation tillage minimizes the number of operations necessary to prepare a seedbed, plant the crop, and control weeds. Methods of conservation tillage suitable for the crops grown in this survey area, such as cotton, wheat, corn, and processing tomatoes, are being developed. Excessive tillage tends to break down soil structure, compact the soil, reduce the content of organic matter, and create a plowpan below the tilled layer. Six to as many as twelve passes across the field increase carbon dioxide and particulate emissions, increase the hazard of erosion, decrease the water intake rate and organic matter content of the soil, and restrict root penetration. Combining tillage operations and thus reducing the number of trips over a field and delaying tillage while soils are wet are other important factors in maintaining soil tilth, preventing compaction, and conserving energy. This type of tillage can be beneficial on Garces, Millox, and Calflax soils and on some Oldriver soils. Adoption of this practice in the survey area has been minimal because of concerns about weed control and stand establishment.

Cover crops are beneficial in orchards and vineyards and on soils left fallow during the rainy season. They help to maintain or increase the rate of water infiltration, improve winter access for cultural operations, help to control erosion on sloping land, and reduce dustiness and thus improve working conditions and air quality in the Central Valley. During late winter or early spring, mowing cover crops in orchards and vineyards to a height of 0.5 inch to 3 inches reduces the likelihood of frost damage to a cold-sensitive crop. The cover crop should then be allowed to produce seed. In recent years, there has been a large increase in the number of "organic" acres farmed in the survey area. Cover crops of blackeye beans (CB46) have been grown to decrease nematode populations and improve N fertility for the following crop. Also, growing a sterile mustard over the winter that, when incorporated green, produces a natural fumigant helps to control disease and soil pests. Mixtures of a variety of grasses and legumes have been studied over the years as "insectary crops" to help attract beneficial insects to the field and thus reduce pest pressure and the need for spraying. If water infiltration or improvement of soil structure is the major concern, the native grasses in the orchard may do just as well.

Crop residue management consists of returning crop residue to the soil or allowing it to remain on the soil surface. The residue returned to the soil helps to maintain soil tilth, the content of organic matter, and the fertility level and reduces the hazard of erosion. On soils with slopes of more than 2 percent, such as Cuyama sandy loam, 2 to 5 percent slopes, and on soils that are subject to wind erosion, such Granoso loamy sand, 0 to 2 percent slopes, crop residue left on or near the soil surface reduces the hazard of erosion during critical erosion periods. Organic matter influences the

development and stabilization of soil structure and improves the general physical environment by increasing the rate of water infiltration and the available water capacity of the soil.

In nearly all circumstances, crop residue should not be burned or removed. Amendments high in content of organic matter generally are beneficial. Care should be taken to maintain a ratio of carbon to nitrogen low enough (less than 15) for nitrogen to remain available to the crop. Only partially decomposed excess organic matter in the bed at planting time can sometimes increase seedling disease and cause stand loss. Sufficient time and moisture should be allowed to break down residue prior to planting. Nitrogen applied with amendments in the fertilizer program should be accounted for.

High-residue crops, such as corn, barley, and wheat, can make up for low-residue crops, such as tomatoes and sugar beets, in a cropping system. Other excellent sources of organic matter are prunings from orchards and vineyards, animal manure, and grasses and legumes. Dairy manure is the most commonly applied organic amendment. It is applied at a rate of 2 to 20 tons per acre. It supplies the crop with significant additional potassium and phosphate as well as nitrogen.

Hayland management is needed on irrigated hayland to protect the soil, allow maximum production, maintain a desirable plant community, and extend the life of plantings. The management practices needed include irrigation water management, applications of fertilizer, and proper timing of mowing and baling activities. These activities should be carried out when the soils are firm and dry enough to support the load.

Irrigated hay crops should be established by seeding in early fall or spring into a firm seedbed. The first mowing should be delayed until the plants are well established. The spacing of borders on flood-irrigated hayland should be in multiples of the cutting width of the mower to be used.

Warm-season forage crops, such as alfalfa, silage corn, sorghum, and sudan, require frequent irrigation. Most fields in the survey area have self-contained or ranch-contained tailwater return systems. The uniformity of irrigation and the efficiency of water use can be excellent when the tailwater is captured and cycled back to the field. Capturing the tailwater also captures sediments and potential pesticide runoff.

Irrigation land leveling is necessary to conserve irrigation water and obtain top yields. It helps to ensure that water is applied uniformly to the entire field without any wet swales or dry ridges. Leveling is crucial in areas of Garces, Millox, and Lokern soils and even on sandier soils, such as Kimberlina and Wasco sandy loams, that tend to "seal over" as water caught in a low spot sits for days before infiltrating or evaporating.

If a surface-irrigated permanent crop is intended for the field, an annual crop, such as silage or winter wheat, should be planted following the initial land leveling. Growing this crop will give the filled areas a chance to settle. The field can be land planed before trees or vines are planted. Accurate land leveling is important. Laser-guided equipment can be used to produce a very uniform grade. Significant benefits can be realized by releveling periodically and by releveling fields that were leveled without the aid of laser equipment. Shallow or near-surface subsidence is not a big problem in the southwest part of Kern County, and the field level will remain reasonably stable in most areas. A more serious problem has been the removal of topsoil from high spots in the desert ground around the rim of the old Buena Vista and Kern Lake Beds. This removal exposes some highly saline-sodic "hot spots" underneath. There are some of these "hot spots" in low-lying swales that may benefit from the fill, but some of these fields would be more productive if sprinkler or microirrigation systems were used.

Irrigation water management is achieved by controlling the rate and timing of irrigation water application and the amount of water applied so that the needs of the crop for water are met in a planned and efficient manner. This practice efficiently utilizes the available water in the soil for desired crop response and minimizes soil

erosion. It also controls costly water losses and protects water quality. The irrigation methods used in the survey area are furrow, border, basin, and sprinkler systems; a microsprinkler and drip system; and a buried drip tape system. Border-furrow irrigation is by far the most common method in the area. Most of the irrigated acreage is used for forage crops for the local dairies. Tailwater return systems capture most runoff water and recycle it to the same field or the next field downslope. The extra piping and power required for the return systems is still very cost effective when average water costs can exceed \$80 per acre-foot. Solid-set hand-move aluminum sprinkler pipe is the next most common method. It is used mostly for carrots, onions, tomatoes, potatoes, and some field crops, such as cotton. A small acreage is irrigated with center pivots and linear move sprinklers. Microsprinkler and drip irrigation is the system of choice for most orchards and vineyards. Melons, processing tomatoes, and vegetables, such as peppers, are subirrigated with removable drip-tape systems with increasing frequency.

Soil fumigation is an important practice in the survey area. Many university trials over the last 30 years have proved the value of soil fumigation and sterilization for optimal permanent crop production and improved quality in many root crops important in the area. This operation may require the installation of plastic tarps on top of the soil to “seal in” the fumigant, or the chemical can simply be injected in the sprinkler water and broadcast over the soil or shanked into the bed before the top is “sealed” by wetting with sprinklers (metham sodium in vegetable crops). This process is damaging to overall soil quality, but for many crops it has been shown to be economically beneficial when done prior to planting. After sterilization, 1 to 3 tons per acre of compost commonly is applied to the soils to help “bring them back to life.”

Winter and prescribed grazing in the irrigated parts of the survey area is mostly grazing by sheep in alfalfa fields and some crop stubble left over the winter. Grazing removes unwanted plant growth for the grower and provides nutrition for the sheep industry in preparation for spring lambing. Because of very sparse winter rainfall, the actual pasturage and open range grazing is sporadic in the survey area. This practice helps to prevent soil deterioration, allows maximum production, maintains a desirable plant community, and extends the life of pastures. The management practices used on irrigated pasture include irrigation water management, rotation grazing, applications of fertilizer, harrowing or dragging to scatter animal droppings, mowing as necessary to maintain uniform growth, and weed control. Grazing during irrigation or when the soil is wet is not recommended.

Selection of a suitable plant mixture is important when a pasture is established. For most of the soils in the survey area, mixtures including a perennial grass and trefoil or clover produce an abundance of high-quality forage. Annual pastures should be managed so that the plants produce sufficient seed to maintain a good stand and adequate plant density.

In the southwest part of Kern County, *subsurface water removal* is required in a very few areas where buried layers of impermeable clays are 8 to 20 feet from the surface. As water prices have climbed, more canals have been lined, buried mainlines have been installed, and the survey area has switched to more permanent and high-value vegetable crops, the efficiency of regional water use has increased and the area impacted by “perched water” has been reduced. Layers that perch water occur in some small areas of Oldriver, Copus, and Millox soils. The perched water, which generally is saline, is removed by either deep open “interceptor” ditches or buried tile or plastic drains that empty to a buried sump. The water is pumped to the surface and spread in waste ponds, where it evaporates. Proper methods of drainage water disposal are needed to remove any poor-quality water that is collected by the drainage system. High-quality ground water should be protected from possible pollution by any drainage water that is of low quality.

Salinity management is needed on all soils in the survey area that use ground water in addition to low-salinity canal water. Some soils with severely limited drainage are suited only to salt-tolerant annual crops, such as cotton, sudangrass, barley, safflower, and winter wheat. Safflower also can be grown as a “drainage aid” because of its extremely deep rooting and extraction of water. Leaching can reduce the total salinity and the concentration of toxic ions, such as boron and sodium, where drainage is not a significant problem. Some areas of Oldriver, Copus, and Garces soils have been sufficiently reclaimed and altered so that they are now planted to lettuce, onions, garlic, citrus, or almonds. In the southwest and northwestern parts of Kern County, significant areas of Garces and Buttonwillow soils with elevated salinity levels are planted to pistachio since this tree has proved about as salt-tolerant as cotton. Intensive management is required to reduce salinity and sodicity and thus maintain soil structure and productivity. Carefully applying irrigation water helps to prevent the buildup of a high water table and excessive crop stress. Guidelines for reclaiming saline-sodic soils in this survey area are available in the section “Saline-Sodic Soils.”

Even soils that are low in salinity, such as Premier, Kimberlina, Cerini, and Hesperia soils, can build up excess salts in the root zone when ground water or California Aqueduct water and extremely efficient drip or microsprinkler systems are used. Some almond orchards perform very well for 8 to 10 years and then exhibit leaf burn and defoliation because no salts are leached over that time. Winter rainfall in the southern end of the San Joaquin Valley is insufficient to provide necessary leaching for most permanent crops.

Crops Best Suited to the Soils

Soils strongly influence the kind of crop and pasture plants that can be grown in this survey area. The climate in the area favors a wide variety of crops. More than 60 different kinds of crops are grown on the irrigated land in the area.

Irrigated field crops are grown on virtually all the soils in the area. On soils with low salinity, such as Cerini, Hesperia, Premier, and Kimberlina soils, forage crops are grown mostly as occasional rotation crops between higher value vegetable crops. Cotton, corn-sudan silage, alfalfa, and wheat are grown as the primary crops on the soils with a higher content of clay and in some areas of elevated salinity and sodicity. Calflax, Garces, Millox, Lokern, and Buttonwillow soils are typically used for these rotations. Drainage may be seriously limited in a few areas of Oldriver, Copus, and Millox soils. To reduce surface salinity and excess drainage, sprinklers and buried drip tape are used as alternatives to flood irrigation.

Vegetable crops are grown on very deep soils, such as Excelsior, Cerini, Granoso, Premier, and Hesperia soils. Rotation of these crops with field crops helps to maintain tilth and reduces disease problems. Ground preparation includes intensive chiseling, disking, and often mulching of the seedbed just prior to planting. Solid-set hand-move sprinkler systems are used to germinate most small-seeded crops, often planted in multiple lines per bed. In recent years, there has been a significant movement to direct planting of tomato, pepper, and melon transplants that are then irrigated with shallow buried drip tape. This practice ensures uniformity of the stand, eliminates the need for one or two tillage passes, and significantly reduces the amount of water needed for germination, compared to the amount needed when sprinklers are used.

Fruit and nut crops are best suited to the very deep, medium textured soils in the survey area, such as Cerini, Panoche, Excelsior, Kimberlina, Premiere, and Wasco soils (fig. 17). The methods of irrigation are commonly microsprinkler and drip systems. Cover crops, used mostly in almond orchards, reduce the hazard of erosion and dustiness and improve access between irrigation runs. In general, grapes, almonds, citrus, and cherries and other stone fruits require the best soils because of their low tolerance of salts and alkalinity. Exceptions are pistachios and pomegranates.



Figure 17.—Grapes growing on Wasco sandy loam, 0 to 1 percent slopes.

This survey area has very little irrigated pasture, which is uneconomical on a large scale because of the cost of land and water. Grazing is generally limited to winter “sheep off” of alfalfa prior to spring lambing and open range cattle grazing in the foothills. Little, if any, soil-plant-fertility management is applied on the pasture, but cattlemen usually rotate the appropriate number of head on a given range in light of rainfall and grass production. For additional information, refer to the “MLRA 17 Vegetative Guide,” available at the local NRCS Service Center.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961).

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2*e*-4 and 3*e*-6. They are assigned to soils in capability classes 2, 3, and 4 according to the following principal soil properties or limitations:

- 1 Potential or actual wind erosion or water erosion.
- 2 Drainage or overflow hazard (somewhat poorly drained or poorly drained, flooded or ponded).
- 3 Slowly permeable or very slowly permeable subsoils or substrata.
- 4 Coarse or gravelly textures.
- 5 Fine or very fine textures.
- 6 Salinity or alkali, sufficient to constitute a continuing limitation or hazard.
- 7 Stones, cobbles, or rocks sufficient to interfere with tillage.
- 8 Hardpan or hard, unweathered bedrock within the root zone.
- 9 Low inherent fertility associated with strong acidity or low calcium.
- 10 High organic matter content—peats and mucks.
- 11 Coarse-sandy or very gravelly substrata limiting to root penetration and moisture retention.

The capability classification of map units in this survey area is given in the section "Detailed Soil Map Units" and in table 6.

Major Land Resource Areas

A major land resource area is a broad geographic area that has a distinct combination of climate, topography, vegetation, land use, and general type of farming

(USDA, 2006a). Parts of four of these nationally designated areas are in this survey area. These areas are:

MLRA 15.—Central California Coast Range. This MLRA makes up about 21 percent of the survey area. It borders the west and south sides of the San Joaquin Valley in the survey area.

MLRA 17.—Sacramento and San Joaquin Valleys. This MLRA makes up about 72 percent of the survey area. The southern extent of this MLRA is in the survey area.

MLRA 18.—Sierra Nevada Foothills. This MLRA makes up about 3 percent of the survey area, primarily along the eastern boundary of the area.

MLRA 20.—Southern California Mountains. This MLRA makes up about 4 percent of the survey area, primarily along the southern boundary of the area.

Important Farmlands

Several kinds of important farmland are defined by the U.S. Department of Agriculture. These are prime farmland, unique farmland, additional farmland of statewide importance, and additional farmland of local importance. Two of these are recognized in this survey area—prime farmland and additional farmland of statewide importance.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland. Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 7. This list does not constitute a recommendation for a particular land use. On the soils included in the list, measures that overcome droughtiness are needed. Onsite evaluation is needed to determine whether or not this limitation has been overcome by irrigation. The extent of each listed map unit is shown in table 5. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

Additional farmland of statewide importance is land, in addition to prime and unique farmlands, that is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating this land are to be determined by the appropriate State agency or agencies. Generally, additional farmlands of statewide importance include those that are nearly prime farmland

and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce as high a yield as prime farmland if conditions are favorable. In some States, additional farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

The map units in the survey area that are considered additional farmland of statewide importance are listed in table 8. This list does not constitute a recommendation for a particular land use. The extent of each listed map unit is shown in table 5. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

California Storie Index

Prepared by Anthony "Toby" O'Geen, Ph.D., Soils Extension Specialist, University of California, Davis, and Susan Southard, National Liaison to the National Park Service, Natural Resources Conservation Service, Davis, California.

The Storie index is a widely known and accepted method of rating soils for land use and productivity in California (Storie, 1978). Ratings are generated from a broad range of soil profile and landscape characteristics. The Storie index of the soils in this survey area is shown in table 9. Historically, Storie index ratings have been "hand generated" by soil survey staff and collaborators. These ratings can be highly subjective because no single person has generated Storie ratings for the entire State and because there are inherent biases associated with the classification system. To reduce this subjectivity, a revised Storie index is used in the National Soils Information System (NASIS) to compute the ratings (O'Geen and Southard, 2005).

The model uses combinations of discrete and fuzzy logic functions (Cox, 1999) to obtain scores for the factors associated with the Storie index. If the modeled criteria in NASIS are used, subjectivity can be minimized and ratings can be generated in a timely and consistent manner. This model was used when ratings for the soils in this survey area were generated.

The Storie index assesses the productivity of a soil on the basis of four factors. These are factor A, the degree of soil profile development; factor B, texture of the surface horizon; factor C, slope; and factor X, manageable features, including drainage, microrelief, fertility, acidity, erosion, and salt content. A score ranging from 0 to 100 percent is determined for each factor, and the scores are then multiplied together to derive an index rating (Storie, 1933, 1978). For map units with more than one major component, the Storie index can be a weighted average based on the percentages of the soil components in the unit, the rating can be based solely on the major soil component, or it can be the best rating in the unit.

For *factor A*, the degree of soil development is used to assess potential productivity. For alluvial soils, the score is progressively decreased with increasing degree of soil development and/or the presence of root-restrictive layers. Deep, well drained alluvial soils would be rated 100, whereas a similar soil with a restrictive horizon, such as a claypan or hardpan, would be rated much lower. For soils that formed in material weathered from bedrock, scoring is based on depth to lithic or paralithic contact.

Two main data sets in NASIS are used to model factor A—soil taxonomy and landform. Interpretive criteria implied in the Storie Profile Group (factor A) relied on the current taxonomic placement (Soil Survey Staff, 1999) of the soil in NASIS. In all situations, the upper limit of the scoring range was used for each soil profile group. For example, an Entisol that formed on the valley floor would be rated 100, whereas a Durixeralf that is on an old terrace and is less than 1 foot deep to a pan would receive a rating of 80. The fuzzy logic rule "more is better" was used to revise the upper limit of the score.

Factor B is based on texture of the surface horizon. Loamy soils receive the highest ratings, and clay-rich and sandy soils receive lower ratings. The scores are modified by content of rock fragments. They range from 100 to 10 percent.

Crisp values were assigned for surface horizon textural classes according to Storie (1978). The following textures were not listed in the original Storie index publication and were added and assigned ratings by the authors: silty clay, clay, coarse sand, very fine sandy loam, sandy clay, loamy coarse sand, loamy fine sand, loamy very fine sand, and silt. At the present time, the NASIS Storie model does not rate in-lieu-of textures because they were not addressed in the original Storie index. The content of rock fragments modified textural class ratings according to the fuzzy logic rule "less is better." This fuzzy score for content of rock fragments was then used to weight the surface soil textural class score for factor B. For example, a silt loam with 0 percent rock fragments received a score of 100, while a very gravelly silt loam with 45 percent rock fragments received a score weighted proportionally to the amount of rock fragments.

Factor C is based on steepness of slope. Scores are 100 to 85 percent if slopes are nearly level or gently sloping (0 to 8 percent), 95 to 70 percent if slopes are moderately sloping or strongly sloping (9 to 30 percent), and 50 to 5 percent if slopes are steep (more than 30 percent).

When slope classes stored in NASIS were scored, the fuzzy logic rule set "less is better" was used. This function reduced the subjectivity associated with choosing a score from the range of scores within each factor. For example, the original Storie factor C (slope) has slope categories with scores that range from 100 for nearly level to 5 for very steep (Storie, 1978).

Factor X focuses on soil and landscape conditions, exclusive of the soil profile, that require special management. The characteristics considered are fertility, drainage, erosion, acidity, salt content, and microrelief. Data elements stored in NASIS, such as drainage class, erosion class, microrelief, flooding, and ponding, were used to model the hydrologic and physical properties associated with the X factor. Toxic thresholds were established for electrical conductivity, sodium adsorption ratio, and pH to define adverse chemical properties used for the X factor. Optimum soil pH was used to characterize fertility. Fuzzy rule sets were implemented in NASIS to model chemical and fertility attributes associated with the X factor. A "less is better" curve was used to score erosion and salt content. Crisp values were assigned to hydrologic properties.

Named components in map units are assigned grades according to their suitability for general intensive agriculture as shown by their Storie index ratings. The six grades and their range in index ratings are:

- Grade one—80 to 100
- Grade two—60 to 79
- Grade three—40 to 59
- Grade four—20 to 39
- Grade five—10 to 19
- Grade six—less than 10

Grade one soils are well suited to intensively grown irrigated crops that are climatically adapted to the region.

Grade two soils are good agricultural soils, although they are not so desirable as soils in grade one because of a less permeable subsoil, deep cemented layers (e.g., duripans), a gravelly or moderately fine textured surface layer, moderate or strong slopes, restricted drainage, a low available water capacity, lower soil fertility, or a slight or moderate hazard of flooding.

Grade three soils are only fairly well suited to agriculture because of moderate soil depth; moderate to steep slopes; restricted permeability in the subsoil; a clayey,

sandy, or gravelly surface layer; somewhat restricted drainage; acidity; low fertility; or a hazard of flooding.

Grade four soils are poorly suited. They are more limited in their agricultural potential than the soils in grade three because of such restrictions as a shallower depth; steeper slopes; poorer drainage; a less permeable subsoil; a gravelly, sandy, or clayey surface layer; channeled or hummocky microrelief; or acidity.

Grade five soils are very poorly suited to agriculture and are seldom cultivated. They are more commonly used as pasture, rangeland, or woodland.

Grade six soils and miscellaneous areas are not suited to agriculture because of very severe or extreme limitations. They are better suited to limited use as rangeland, protective habitat, woodland, or watershed.

Important note: This interpretation was not designed to be used in a regulatory manner.

Saline-Sodic Soils

The long-term production of food and fiber crops in this survey area requires careful management of salts and sodium in the soils. Soluble salts and sodium in soils can be traced to several sources. Most originated from the decomposition of soil minerals and rocks by weathering. In this survey area, where the amount of rainfall is low and the evaporation rate is high, soluble salts remain within the soil profile and may accumulate sufficiently to restrict the growth of plants. In addition, some areas receive salt-charged runoff or ground water. Soils on the perimeter of the Buena Vista Lake Basin have a high water table at a depth of 4 to 6 feet (122 to 183 centimeters) from March through August. Water rises in the soils as irrigation begins and as runoff from surrounding mountains drains toward the basin floor. As evaporation proceeds during the hot summer, dissolved salts are deposited near the surface of the soils. The salts remain as moisture evaporates. This cycle is especially prevalent in the moderately well drained Fages soils along the rim of the basin floor. These soils formed in lacustrine deposits over alluvium derived from rocks of mixed mineralogy. Stratification, seasonal wetting and drying, and capillary action from the high water table have resulted in strongly saline-sodic conditions that are typical of soils that surround basin floors in the San Joaquin Valley. Percolating water from seasonal rainfall modifies the location and amount of salts that accumulate within the soils, but it does not remove salts from the soils. Over time, productivity is seriously restricted.

Most salt-affected soils in the survey are on fan skirts, basin floors (primarily along the rim of Buena Vista Lake and Kern Lake), and flood plains associated with the Kern River. Copus, Zalvidea, Lokern, and other soils on or near the basin floor of the Buena Vista Lake Bed are very slightly saline and tend to be slightly alkaline or less alkaline. The soils in the lowest part of the basin have lower salinity than the soils on the edge of the basin because historically there was sufficient inundation with low-salinity waters from the Sierra Nevada to push salts out of the soil profile. Redoximorphic features that are brighter and/or darker than the soil matrix color or a soil matrix color that has low chroma indicates chemical reduction and oxidation of iron and manganese compounds resulting from saturation in these soils. Posochanet soils on fan skirts and Fages soils on the rim of basin floors are strongly saline-sodic and generally are slightly alkaline to strongly alkaline. Millox soils on basin floors are moderately saline-sodic since they occur slightly closer to the perimeter of the basin, where salinity is the highest. These soils are moderately alkaline to very strongly alkaline.

Garces and Tennco soils on nonburied fan remnants are associated with alluvium from the Kern River. They are at the slightly higher elevations in the northeast part of the Buena Vista Lake Basin. They are classified as Typic Natrargids, generally are moderately alkaline to very strongly alkaline, and have a high sodium adsorption ratio.

The smaller intermittent streams that drain the Transverse Ranges and Temblor Range have contributed to the formation of salt-affected soils. The shallow ground

water at these lower elevations becomes saline because of salts in the soils and evaporation from the surface of the soils. The soluble salts that accumulate in the soils consist of calcium sulfate and sodium sulfate, along with smaller quantities of magnesium sulfate. Smaller amounts of sodium bicarbonate, sodium carbonate, sodium chloride, and calcium chloride also occur in some soils in the survey area.

By definition, saline soils contain enough soluble salts to interfere with the growth of most crops but do not have enough sodium to alter physical soil properties. In a saline soil, the conductivity of the saturation extract is more than 4 decisiemens per meter (at 25 degrees C) and the sodium adsorption ratio is less than 13. Zalvidea sandy loam, partially drained, 0 to 2 percent slopes (map unit 380), is an example of a saline soil in this survey area.

Saline-sodic soils are defined as soils that have enough soluble salts to interfere with the growth of most crops and enough exchangeable sodium to affect physical soil properties and restrict plant growth. The sodium adsorption ratio is more than 13, and the conductivity of the saturation extract is less than 4 decisiemens per meter (at 25 degrees C). Fages clay, 0 to 1 percent slopes (map unit 160), is an example of a saline-sodic soil in the survey area.

Nonsaline-sodic soils have enough exchangeable sodium to interfere with the growth of most crops and affect physical soil properties. The sodium adsorption ratio is more than 13, and the conductivity of the saturation extract is less than 4 decisiemens per meter (at 25 degrees C). Soils with this combination of chemical characteristics are rare in the survey area.

Field and laboratory determinations indicate that the amount of soluble salts and sodium can vary considerably in this survey area. Some general guidelines that should be helpful in dealing with the problem can be given. Some key items to be considered when a reclamation program is planned are the water supply; drainage, including the rate of internal drainage; and the amount of excess salts and sodium.

Water supply.—An ample supply of good-quality water is a primary requirement. More water than is needed to grow crops should be applied. The additional water is for leaching the salts downward into the lower part of the subsoil or below the subsoil. If extensive reclamation is planned in the area and the content of salts is not known, a laboratory determination should be made.

Drainage.—Adequate drainage is necessary to remove excess salts from the soil. Improvement is likely only to that depth in the soil for which adequate drainage can be provided. The better the drainage, the more readily excess salts can be removed. If drainage is not adequate and no measures are taken to improve it, little change is likely. Open ditches and drain tiles are the two most common methods used to lower a high water table. Subsurface or drain tiles can alleviate the drainage problem by removing excess water from the upper part of the soil. A suitable outlet for drainage water must be available if the reclamation process is to function properly. The discharge from these drains into local waterways is prohibited in most of the San Joaquin Valley because of the high levels of salts and selenium frequently occurring in drainage water.

Rate of internal drainage.—Many factors affect the downward movement of water through the soil, including texture, bulk density, porosity, structure, and shrinking and swelling of the soil upon wetting and drying. The more rapid the rate of internal drainage, the more quickly excess salts can be removed and the sooner improvements can be made. Garces loam, 0 to 1 percent slopes (map unit 180), is an example of a soil with a dense, slowly permeable subsoil. Reclamation is generally not successful unless this soil is deeply plowed and mixed or ripped and the subsoil is broken.

Amount of excess salts and sodium.—If internal drainage is adequate or is artificially improved, even severely affected saline-sodic soils can be improved by leaching the salts through the soil profile. If a sufficient amount of water is used, the salts will be flushed downward.

Removing excess sodium is somewhat more difficult and expensive than removing excess salts. A chemical change must take place in the soils. This change is generally brought about by applying gypsum (calcium sulfate). A soil test helps to determine how much gypsum should be applied to obtain the desired results. Gypsum supplies the calcium to replace the excess sodium on the surface of the clay particles. Calcium can also be obtained by applying sulfuric acid in bulk quantities. The acid reacts with the calcium carbonate common in the soils. Both the calcium and hydrogen ions displace the adsorbed sodium. The acid method often achieves quick results, but it is more expensive and extra care is needed in handling the acid. Elemental sulfur can be used instead of gypsum, but sulfur takes longer to react. Before it can act, sulfur must be changed to sulfate. This change is made by microbes living in the soil. About the same result is obtained with any of these materials, but time and cost differences should be considered.

Intensive management is necessary to reclaim saline-sodic soils that have a high content of clay, such as saline-sodic Posochanet soils. The key practices needed to improve these soils include leveling the land; subsoiling, which can improve water infiltration; establishing drainage ditches or installing subsurface drains; applying gypsum or sulfur to correct the sodic condition and improve permeability; applying water to leach excess salts downward; and establishing plants that can tolerate salts and sodium. A suitable outlet for drainage water must be available for this reclamation process to be effective.

Assistance in interpreting laboratory tests of soil and water and detailed reclamation schedules for various soil conditions can be obtained from the local office of the Natural Resources Conservation Service.

Rangeland

By John E. Hansen, Rangeland Management Specialist, Natural Resources Conservation Service.

Rangeland occurs throughout much of the survey area. It begins on the fan remnants and terraces on the southern and western edges of the San Joaquin Valley within MLRA 17 (Sacramento and San Joaquin Valleys) and ascends south and west within MLRA 15 (Central California Coast Range). It further ascends in the southernmost part of the survey area within MLRA 20 (Southern California Mountains). Generally, the plant communities in this survey area are complex and diverse. Three major bioregions—Central Valley/Coast Range, Transverse Range Mountains, and Mojave Desert—influence plant composition and production. Intermixing of characteristic plants from each bioregion occurs in many areas.

In this survey area, precipitation, elevation, and aspect play the greatest roles in determining the kind and amount of vegetation on rangeland. If areas have similar climate and topography, differences in the kind and amount of rangeland or woodland understory vegetation are closely related to the kind of soil. Effective management of the rangeland is based on the relationship between soils, vegetation, and the availability of water.

The rangeland on fan remnants and terraces in MLRA 17 is characterized by a cover of annual grasses and forbs and scattered shrubs. Klipstein and other soils annually produce about 1,400 pounds per acre (dry-weight). The major limitations affecting grazing are a short seasonal green forage period and an inadequate amount and distribution of livestock water. The typical vegetation consists of red brome (*Bromus rubens*), rat-tail fescue (*Vulpia myuros*), and stork's bill (*Erodium*). Many soils typically have a scattered cover of cattle saltbush (*Atriplex polycarpa*).

Westward from MLRA 17 into the Temblor Range portion of MLRA 15, an increase in elevation corresponds with an increase in species diversity. Red brome is still dominant. Other grasses include the annual grasses rat-tail fescue and Mediterranean grass (*Schmismus barbatus*) and the perennial grasses desert needlegrass

(*Achnatherum speciosum*) and pine bluegrass (*Poa scabrella*). In addition to cattle saltbush, other shrub species include California buckwheat (*Eriogonum fasciculatum*), goldenbush (*Ericameria*), and snakeweed (*Gutierrezia*). Scattered California juniper (*Juniperus californica*) occurs on some soils. Forage production is similar to that in MLRA 17. Some soils are much more productive than is typical. The seasonal green forage period is somewhat longer than that in MLRA 17, especially on north-facing slopes. Inadequate livestock water continues to be a major limitation. Panoza and Beam soils are typical in this zone.

Southward from MLRA 17 into the Transverse Range portion of MLRA 15, an increase in elevation and precipitation corresponds with an increase in forage production and a shift of dominant species. The vegetation, although still dominated by annual grasses and forbs, typically consists of ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), and soft brome (*Bromus hordeaceus*). The average production is 2,600 pounds per acre (dry-weight). The seasonal green forage period is longer than that in MLRA 17; however, inadequate livestock water continues to be a major limitation. Loslobos soils are typical in this zone.

In the southernmost part of the survey area, the mountains of the Transverse Range in MLRA 20, an increase in elevation and precipitation corresponds to an increase in the extent of tree and shrub species. Soft brome, wild oat, stork's bill, and desert needlegrass are typical herbaceous plants. California buckwheat is the dominant shrub. California juniper and scattered oak (*Quercus*) are typical overstory species.

At the time of publication of this soil survey, not all soils had been completely inventoried for potential production and/or characteristic vegetation. Also, vegetation data for soils near survey boundaries was correlated to match similar soils of adjoining soil surveys. Therefore, ecological sites and production values are not included in this publication.

Range management requires knowledge of the kinds of soil and of the potential natural plant community. The objective in rangeland management commonly is to control grazing so that the optimum production of vegetation is achieved, undesirable brush species are controlled, water is conserved, and erosion is controlled. Sometimes, an area with a plant community somewhat different from the potential meets the landowner's objectives in terms of grazing needs, enhancement of wildlife habitat, and protection of soil and water resources.

The major management practices that are needed on the rangeland in the survey area include prescribed grazing, water developments, fencing, brush management, range planting, and animal trails and walkways.

Prescribed grazing, formerly called "proper grazing," is the controlled harvest of vegetation by grazing or browsing animals, managed for a specified objective. Properly following a grazing management plan (or "grazing prescription") improves or maintains the health and vigor of selected plants. Other benefits of prescribed grazing include improved animal health, improved water quality, and a decrease in the hazard of erosion. The factors to be considered when a grazing prescription is designed include the degree of plant utilization, distribution of livestock for a uniform utilization of available resources, season of use, type of grazing animal, type of vegetation (both beneficial and harmful), water distribution, and stocking rate.

Water developments provide clean, dependable water for livestock and wildlife on selected sites. Providing a water supply affects the distribution of wildlife. Other benefits include improved animal health and reduced pressure on riparian areas. The factors to be considered when a water development is planned include the type and number of animals, terrain, season of use, soil-related limitations on the selected sites, and the cost of installation and maintenance.

Fencing is used to form a barrier that limits or prevents access by livestock, wildlife, or people. It is used to facilitate other conservation practices that treat natural resources. The factors to be considered when a fencing project is planned include the

ease of livestock management, wildlife movement needs, soil-related limitations on the selected sites, the cost of construction and maintenance, and legal considerations.

Brush management is the removal or manipulation of shrubby plants. It can be conducted by chemical, mechanical, or biological means or by prescribed burning. It can result in the desired plant community, which can be maintained by prescribed grazing. Other benefits include improved forage, enhanced wildlife habitat, removal of noxious plants, and a reduction in the hazard of wildfires. The factors to be considered when brush management is planned include the form of management, the growth stage of the targeted shrubs, the cost of implementation and followup, the availability of alternative forage during implementation, and the hazards that can affect other natural resources.

Range planting is the establishment of native or nonnative vegetation that is adapted to a given area. It can result in the desired plant community. The benefits of range planting include increased amounts of forage and/or improved forage species composition, browse or cover for livestock and wildlife, a reduced hazard of erosion, and protection of other natural resources. The factors to be considered when a range planting is planned include the nutritional or other value of the selected plant species, the suitability of the soil for planting, soil moisture and temperature regimes, the available water capacity of the soil, the time needed for establishment of the planting, the cost of implementation, and the availability of alternative forage during establishment. Much of the area within MLRA 17 and the lower parts of MLRA 15 are limited by low and unpredictable precipitation; therefore, range seeding for forage improvement is not feasible without irrigation.

Animal trails and walkways improve the access and movement of livestock or wildlife through difficult terrain. Benefits include improved grazing proficiency; better access to forage, water, and shelter; and easier handling of livestock. The factors to be considered when a trail or walkway is planned include the cost of implementation and maintenance, the hazard of erosion, and the potential for damage to other natural resources.

Technical assistance in managing rangeland can be obtained from the local offices of the Natural Resources Conservation Service and the Cooperative Extension Service. Information about the plants identified in this section is available online in "PLANTS Database" (<http://plants.usda.gov>).

Wildlife Habitat

By Elizabeth Palmer, Area Biologist, Natural Resources Conservation Service.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, water, and cover. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

Fish and wildlife are valuable resources in this survey area. They improve the quality of the environment, act as early indicators of pollution, and provide numerous opportunities for recreation. Wildlife-related activities, such as nature study, bird-watching, hunting, and fishing, have a positive effect on the economy of the survey area. Many types of wildlife help in the natural control of weed, insect, and animal pests.

The survey area includes portions of southwestern San Joaquin Valley and the adjacent foothills, including portions of the Tehachapi, Coast, and Transverse Ranges. From the east, the Kern River drainage fed the Buena Vista and Kern Lakes and associated sloughs and riparian corridors. From the west and south, the Transverse, Coast, and Temblor Ranges drained into the basin floor. A hundred years ago, the

southern part of the San Joaquin Valley was home to roaming tule elk herds and millions of migrating and resident waterfowl and shorebirds and had the largest freshwater wetland complex in the Western United States. This vast hydrologic unit, the Tulare Lake Basin, encompassed over 500,000 acres of permanent and seasonal wetlands and was made up of multiple sub-basins, of which the southernmost, the Buena Vista and Kern Lake Beds, are within this survey area (Cooper, 2004). The basin had no perennial surface outlet, and during most years it acted as a sink for major rivers, such as the Kings, Kaweah, Tule, and Kern Rivers. At the highest water level on historic record, Tulare Lake, the largest sub-basin, received inflow from Kern and Buena Vista Lakes to the south via the Buena Vista Slough and discharged northward to the San Joaquin River (Preston, 1981).

Many areas in southwest Kern County are still recognized for their significance to wildlife. Important Bird Areas (IBAs), a National Audubon designation, in this survey include the Taft hills, the Buena Vista and Kern Lake Beds, Cole's levee ecosystem preserve, and San Emigdio Canyon, which includes the Wind Wolves Preserve, the site of several reestablishment programs for rare and extirpated megafauna, including pronghorn, tule elk, and California condor (Cooper, 2004). Throughout southwest Kern County, patches of unplowed valley floors and random overflow basins and fallow fields provide important habitat (Cooper, 2004).

Fish, such as striped and black bass, bluegill, crappie and other sunfish, catfish, trout, and several nongame species, inhabit the Buena Vista Aquatic Recreation Area, Lake Webb and Lake Evans, the California Aqueduct, and other water bodies in this survey area. In addition to habitat for fish and other aquatic wildlife, the rivers, sloughs, creeks, and drainageways provide corridors of riparian vegetation, which is critical habitat for a wide variety of mammals, birds, reptiles, amphibians, and insects. In this survey area, these corridors commonly are the only perennial habitat left for wildlife.

Human activities have various effects on wildlife populations. Agricultural development has changed the hydrology of the San Joaquin Valley. By 1979, nearly all the valley floor and portions of the foothills were urbanized or converted to cultivated cropland as a result of Federal and State water projects (Central Valley Wetlands Supply Investigations, 2000). The immense tule marshes, riparian corridors, alkali sinks and scrubland, grassland, and vernal pool communities have largely disappeared and the historic remnants are often highly degraded (United States Fish and Wildlife Service, 1998).

Many wildlife species, including sparrows, coyotes, opossums, and ground squirrels, can tolerate human activities and actually thrive in close association with humans. Rangeland and both nonirrigated and irrigated field crops, pasture, and alfalfa may be compatible with some upland species and waterfowl, such as sandhill cranes and tri-colored blackbirds. Agricultural land may act as a buffer between encroaching urbanization and upland and wetland habitats. Conversely, the existence of some species has been threatened by human modification of the environment, and the loss or fragmentation of habitat is the major cause for the decline and threat to the survival of a species. Species in the survey area that have been listed as threatened or endangered by the State and/or Federal Governments include the Buena Vista Lake shrew, San Joaquin kit fox, giant garter snake, Mojave ground squirrel, blunt-nosed leopard lizard, giant kangaroo rat, California tiger salamander, Swainson's hawk, California Condor, and Nelson's antelope squirrel. Of the five known sites where Buena Vista Lake shrew can be found, all are within Kern County and two are in this survey area (United States Fish and Wildlife Service, 1998).

The survey area has several threatened or endangered plant species, including Bakersfield cactus, California jewel-flower, San Joaquin woolly-threads, San Joaquin adobe sunburst, and striped adobe lily. It possibly includes the only remaining locations for Bakersfield smallscale (Laymon, 2008). Preserving habitat for threatened

and endangered species can benefit other species and perhaps reduce the need for additional future listings.

Much of the unique species endemism in the San Joaquin Valley is associated with extreme aridity, vernal pools, and wetlands. More endemic vertebrate species co-occur in the San Joaquin Valley than anywhere comparable in the continental United States (United States Fish and Wildlife Service, 1998).

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Some of the trees that are commonly grown as windbreaks in the survey area are Arizona cypress, Russian olive, eldarica pine, and incense cedar.

Information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or from the Cooperative Extension Service or a commercial nursery.

Hydric Soils

A list of the map unit components (both major and minor) that are rated as hydric soils in the survey area is on file in Section 2 of the NRCS Field Office Technical Guide in Bakersfield, California, and is available in Section II of the electronic Field Office Technical Guide (eFOTG) and in the Soil Data Mart (<http://soildatamart/nrcs.usda.gov/>). This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and Vasilas, 2006).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. The depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are made up of hydric soils may have small areas, or minor components, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have minor components of hydric soils in the lower positions on the landform.

Recreation

The soils of the survey area are rated in tables 10a and 10b according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *No limitations* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Limitations* with numerical ratings between 0.00 and 1.00 can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limitations* with a numerical rating of 1.00 indicate that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 10a and 10b can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting

the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Lawns, landscaping, and golf fairways are in areas that are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, construction materials, sanitary facilities, agricultural waste management, and water

management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, topsoil, roadfill, and reclamation material; plan agricultural waste management, water management, and irrigation systems; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 11a and 11b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, and shallow excavations.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *No limitations* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Limitations* with numerical ratings between 0.00 and 1.00 can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limitations* with a numerical rating of 1.00 indicate that the soil has one or more features that are unfavorable for the specified

use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Construction Materials

Tables 12a and 12b give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 12a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The numbers 0.00 to 0.07 indicate that the layer is a poor source. The numbers 0.75 to 1.00 indicate that the layer is a good source. The numbers 0.08 to 0.74 indicate the degree to which the layer is a likely source.

The soils are rated *good*, *fair*, or *poor* as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In table 12b, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Sanitary Facilities

Tables 13a and 13b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *No limitations* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Limitations* with numerical ratings between 0.00 and 1.00 can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limitations* with a numerical rating of 1.00 indicate that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if

fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in table 13b are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in table 13b are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in table 13b also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Tables 14 and 15 show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for a waste management system that is designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients

in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of table 14, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in table 14 are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in table 15 are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in table 15 are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, permeability, depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

Water Management

Tables 16a and 16b provide information on the soil properties and site features that affect water management and irrigation systems. The degree and kind of soil limitations are given for embankments, dikes, and levees; pond reservoir areas; and various irrigation systems. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *No limitations* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Limitations* with numerical ratings between 0.00 and 1.00 can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Limitations* with a numerical rating of 1.00 indicate that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In table 16a, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other

permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Sprinkler irrigation systems vary in shape, size, and design, depending on the needs of the crop grown and the soil type. These systems can be used on a wider range of soils than can border systems. Most sprinkler systems can be used on slopes of as much as 15 percent. Ponding, surface erodibility, and depth to a cemented pan or bedrock typically limit design and performance.

Drip or trickle irrigation systems are very efficient and are most economical for wide-spaced crops, such as trees and vines. Slope generally is not a limitation, and the movement of water through the soil can be controlled by the application rate. Soil texture, movement of water through the soil, surface coarse fragments, and available water capacity are less limiting with these systems than with other irrigation systems.

Furrow irrigation systems are some of the oldest irrigation methods. They require efficient management. A furrow is a small, shallow channel that is installed down the slope or across the slope of a field. The length of the furrow should be determined by the soil type and slope. Furrows extending downslope contribute to soil erosion. Soil texture, erodibility, and depth to a cemented pan or bedrock typically limit performance and affect maintenance.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, compaction characteristics, and many other soil properties.

Laboratory analysis is available as characterization data (USDA, 2006b), available online (<http://ssldata.nrcs.usda.gov>).

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils (USDA, 2004).

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 17 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Texture terms are defined in the Glossary. The abbreviations used in this column are explained in table 18.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the

other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 19 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 19, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earth-moving operations.

Moist bulk density is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $1/3$ - or $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic

conductivity (Ksat). The estimates in the table indicate the rate of water movement, in micrometers per second (um/sec), when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $1/3$ - or $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 19, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion Properties

Erosion factors are shown in table 20 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Depth to the upper and lower boundaries of each layer is indicated.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least

susceptible. A description of the wind erodibility groups is available in the National Soil Survey Handbook (<http://soils.usda.gov/technical/handbook/>).

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Soil Properties

Table 21 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on laboratory test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in decisiemens per meter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Water Features

Table 22 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 22 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 22 indicates the frequency of ponding. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 23 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

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

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2006). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 24 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Xeralf (*Xer*, meaning dry, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haploxeralfs (*Hapl*, meaning minimal horizonation, plus *xeralf*, the suborder of the Alfisols that has a xeric moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Haploxeralfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is loamy-skeletal, mixed, superactive, thermic Typic Haploxeralfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. An example is the Eaglerest series.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each

series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 2006). Unless otherwise indicated, colors in the descriptions are for dry soil. Following the pedon description is the range of important characteristics of the soils in the series.

Bakersfield Series

The Bakersfield series consists of very deep, somewhat poorly drained soils that formed in alluvium derived from granitoid rock. These soils are on flood plains. Slope is 0 to 1 percent. Bakersfield soils are classified as coarse-loamy, mixed, superactive, thermic Torrifuventic Haploxerolls.

Typical pedon

In map unit 101, Bakersfield fine sandy loam, drained, 0 to 1 percent slopes; Kern County, California; about 1.4 miles (2.3 kilometers) south-southwest of Shafter School; about 2,490 feet (759.0 meters) north and 2,330 feet (710.2 meters) east of the southwest corner of sec. 36, T. 31 S., R. 27 E.; Mount Diablo Base and Meridian; latitude 35 degrees 11 minutes 11 seconds north and longitude 119 degrees 01 minute 53 seconds west; USGS Conner, California, Quadrangle, NAD83.

- Ap1—0 to 3 inches (0 to 8 centimeters); grayish brown (2.5Y 5/2) fine sandy loam, very dark grayish brown (2.5Y 3/2) moist; moderate very coarse and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine and fine tubular and interstitial pores; 2 percent 2- to 5-millimeter gravel; slightly acid (pH 6.2); clear smooth boundary.
- Ap2—3 to 10 inches (8 to 25 centimeters); dark grayish brown (10YR 4/2) fine sandy loam, very dark gray (10YR 3/1) moist; weak very coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine and fine tubular pores; 2 percent 2- to 5-millimeter gravel; slightly acid (pH 6.2); abrupt smooth boundary.
- A—10 to 16 inches (25 to 41 centimeters); dark grayish brown (10YR 4/2) fine sandy loam, very dark gray (10YR 3/1) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine and few fine tubular pores; 2 percent 2- to 5-millimeter gravel; neutral (pH 7.0); abrupt wavy boundary.
- C1—16 to 29 inches (41 to 74 centimeters); grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; thin strata of brown (10YR 5/3) sand and loamy fine sand, dark brown (10YR 3/3) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine and fine tubular pores; slightly effervescent; 2 percent 2- to 5-millimeter gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.
- C2—29 to 45 inches (74 to 114 centimeters); light brownish gray (2.5Y 6/2) sandy loam, dark grayish brown (2.5Y 4/2) moist; massive; hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine and few fine tubular pores; many medium and very coarse yellowish brown (10YR 5/8) redoximorphic features, strong brown (7.5YR 4/6) moist; 2 percent 2- to 5-millimeter gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.
- Ck—45 to 51 inches (114 to 130 centimeters); light brownish gray (10YR 6/2) and pale brown (10YR 6/3) loam, black (10YR 2/1) and dark brown (10YR 3/3) moist; moderate medium prismatic structure parting to moderate medium subangular blocky; hard, friable, sticky and plastic; few very fine roots; many very fine, common fine, and few medium tubular pores; few fine brown (7.5YR 4/2) redoximorphic features, dark brown (7.5YR 3/2) moist; slightly effervescent;

carbonates segregated as common fine soft masses, filaments, and threads; 2 percent 2- to 5-millimeter gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.

C¹—51 to 58 inches (130 to 147 centimeters); light brownish gray (2.5Y 6/2) silt loam, dark grayish brown (2.5Y 4/2) and dark brown (7.5YR 3/2) moist; weak medium prismatic structure parting to weak medium subangular blocky; hard, friable, sticky and plastic; few very fine roots; many very fine and few fine tubular pores; few fine and medium brown (7.5YR 4/2) redoximorphic features; slightly effervescent; 2 percent 2- to 5-millimeter gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.

C²—58 to 66 inches (147 to 167 centimeters); light gray (2.5Y 7/2) fine sand, grayish brown (2.5Y 5/2) and strong brown (7.5YR 4/6) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine tubular pores; common fine and medium strong brown (7.5YR 5/6) redoximorphic features; 2 percent 2- to 5-millimeter gravel; moderately alkaline (pH 8.0).

Range in characteristics

Many areas of these soils are artificially drained. The acidity in the Ap horizons at the type location and in many other areas of this series may be the result of the use of fertilizers or soil amendments.

A horizons:

Hue—10YR or 2.5Y dry and moist

Value—4 or 5 dry and 2 or 3 moist

Chroma—2 or 3 dry and 1 to 3 moist

Texture of the fine-earth fraction—sandy loam or fine sandy loam

Content of clay—5 to 18 percent

Content of organic matter—0.5 to 3 percent

Electrical conductivity—0.5 to 8 decisiemens per meter

Sodium adsorption ratio—2 to 80

Reaction—slightly acid to slightly alkaline

Content of rock fragments—0 to 3 percent 2- to 5-millimeter gravel

C horizons:

Hue—10YR, 7.5YR, or 2.5Y dry and moist

Value—5 to 7 dry and 2 to 5 moist

Chroma—1 to 6 dry and moist

Texture of the fine-earth fraction—stratified sand to silt loam, sand, or loam

Content of clay—2 to 27 percent

Content of organic matter—0.1 to 0.75 percent

Electrical conductivity—1 to 10 decisiemens per meter

Sodium adsorption ratio—2 to 80

Reaction—moderately alkaline

Content of rock fragments—0 to 3 percent 2- to 5-millimeter gravel

Balcom Series

The Balcom series consists of moderately deep, well drained soils that formed in residuum of calcareous mudstone and/or sandstone. These soils are on hillslopes. Slope is 50 to 75 percent. Balcom soils are classified as fine-loamy, mixed, superactive, thermic Typic Calcixerepts.

Typical pedon

In map unit 610, Balcom-Rock outcrop complex, 50 to 75 percent slopes; Kern County, California; in the Pleito Hills about 24 miles (38.6 kilometers) southeast of Taft;

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400 feet (121.9 meters) west and 2,200 feet (670.6 meters) south of the northeast corner of sec. 27, T. 10 N., R. 21 W.; San Bernardino Base and Meridian; latitude 34 degrees 55 minutes 43 seconds north and longitude 119 minutes 06 minutes 04 seconds west; USGS Pleito Hills, California, Quadrangle, NAD83.

A—0 to 2 inches (0 to 5 centimeters); pale brown (10YR 6/3) loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial pores; violently effervescent; carbonates disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

Btk1—2 to 10 inches (5 to 25 centimeters); light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; moderate coarse prismatic structure parting to moderate medium subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial pores; common distinct clay films bridging mineral grains; violently effervescent; carbonates disseminated and segregated as few fine threads; moderately alkaline (pH 8.0); clear smooth boundary.

Btk2—10 to 20 inches (25 to 51 centimeters); light brownish gray (10YR 6/2) loam, brown (10YR 4/3) moist; weak coarse prismatic structure parting to moderate medium subangular blocky; slightly hard, very friable, slightly sticky and moderately plastic; common very fine roots; common very fine and fine interstitial pores; common distinct clay films on faces of peds; violently effervescent; carbonates disseminated and segregated as few fine soft masses and common fine coatings on faces of peds; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.3); clear wavy boundary.

Btk3—20 to 33 inches (51 to 84 centimeters); light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and moderately plastic; common very fine and few fine roots; common very fine and fine interstitial pores; few faint clay films on faces of peds; violently effervescent; carbonates disseminated and segregated as distinct coatings on gravel; 60 percent 2- to 75-millimeter paragravel; moderately alkaline (pH 8.3); abrupt irregular boundary.

Cr—33 inches; weakly cemented, highly weathered, soft mudstone.

Range in characteristics

The depth to paralithic contact is 20 to 40 inches (51 to 102 centimeters).

A horizon:

Hue—10YR dry and moist
Value—6 dry and 4 moist
Chroma—2 or 3 dry and moist
Content of clay—15 to 25 percent
Content of organic matter—1.0 to 2.0 percent
Calcium carbonate equivalent—10 to 15 percent
Reaction—moderately alkaline

Btk horizons:

Hue—10YR dry and moist
Value—6 dry and 4 moist
Chroma—2 to 4 dry and moist
Content of clay—15 to 25 percent
Content of organic matter—0.1 to 1.25 percent
Calcium carbonate equivalent—10 to 25 percent
Reaction—moderately alkaline
Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel in the Btk1 and Btk2 horizons and 50 to 70 percent paragravel in the Btk3 horizon

Balhud Series

The Balhud series consists of shallow, well drained soils that formed in colluvium derived from sandstone and/or shale. These soils are on hillslopes. Slope is 5 to 75 percent. Balhud soils are classified as fine-loamy, mixed, superactive, thermic, shallow Typic Argixerolls.

Typical pedon

In map unit 951, Bitcreek-Balhud-Ballinger complex, 5 to 30 percent slopes; Kern County, California; about 0.8 mile (1.3 kilometers) southeast of Camp Dix; 1,950 feet (594.4 meters) south of Cerro Noroeste Road and 4,850 feet (1,478.3 meters) east of State Highway 166, in an unsectionalized area; T. 8 N., R. 24 W.; San Bernardino Base and Meridian; latitude 34 degrees 57 minutes 04 seconds north and longitude 119 degrees 26 minutes 07 seconds west; USGS Ballinger Canyon, California, Quadrangle, NAD83.

A—0 to 3 inches (0 to 8 centimeters); dark grayish brown (10YR 4/2) loam, very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure parting to moderate fine subangular blocky; hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores; slightly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.

Bt—3 to 10 inches (8 to 25 centimeters); dark grayish brown (10YR 4/2) clay loam, very dark brown (10YR 2/2) moist; weak coarse prismatic structure parting to moderate coarse subangular blocky and then to moderate medium subangular blocky; hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores; few thin clay films bridging mineral grains; slightly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt wavy boundary.

Cr—10 to 18 inches (25 to 46 centimeters); moderately cemented, highly fractured shale.

R—18 to 28 inches (46 to 71 centimeters); very strongly cemented, slightly fractured shale.

Range in characteristics

The depth to paralithic contact is 10 to 20 inches (25 to 50 centimeters). About 0 to 20 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sandstone and/or shale.

A horizon:

Hue—10YR dry and moist

Value—3 or 4 dry and 2 or 3 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—loam

Content of clay—18 to 27 percent

Content of organic matter—1.0 to 2.0 percent

Reaction—neutral or slightly alkaline

Content of rock fragments—5 to 15 percent 2- to 75-millimeter gravel

Bt horizon:

Hue—10YR dry and moist

Value—3 or 4 dry and 2 or 3 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—clay loam

Content of clay—28 to 40 percent

Content of organic matter—1.0 to 1.5 percent

Reaction—neutral or slightly alkaline

Content of rock fragments—5 to 15 percent 2- to 75-millimeter gravel

Ballinger Series

The Ballinger series consists of moderately deep, well drained soils that formed in residuum derived from sandstone and/or mudstone. These soils are on hillslopes. Slope is 15 to 75 percent. Ballinger soils are classified as fine, smectitic, thermic Xeric Haplogypsis.

Typical pedon

In the northern Santa Barbara survey area, map unit BcE, Ballinger silty clay, 15 to 30 percent slopes; Santa Barbara County, California; about 12 miles (19.3 kilometers) west of New Cuyama on State Highway 166, 1.3 miles (2.1 kilometers) south on an unnamed ranch road, and about 100 feet west on a hillside; in a unsectionalized area; T. 11 N, R. 28 W.; Mount Diablo Base and Meridian; latitude 35 degrees 00 minutes 49 seconds north and longitude 119 degrees 52 minutes 23 seconds west; USGS Callente Mountain, California, Quadrangle, NAD83.

A—0 to 3 inches (0 to 8 centimeters); pale brown (10YR 6/3) silty clay, brown (10YR 4/3) moist; strong medium granular structure; platy surface crust 0.125 to 0.250 inch (0.3 to 0.6 centimeter) thick; hard, friable, very sticky and very plastic; few very fine roots; few very fine tubular and many very fine interstitial pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bky1—3 to 15 inches (8 to 38 centimeters); pale brown (10YR 6/3) silty clay, brown (10YR 4/3) moist; weak coarse prismatic structure; hard, friable, very sticky and very plastic; few very fine roots; few very fine tubular and many very fine interstitial pores; 10 to 15 percent fine gypsum nests; violently effervescent; carbonates disseminated and segregated as common fine and medium threads; moderately alkaline (pH 8.0); gradual irregular boundary.

Bky2—15 to 23 inches (38 to 58 centimeters); yellowish brown (10YR 5/4) mixed with light gray (10YR 7/2), reddish gray (5YR 5/2), and gray (5Y 5/1) silty clay, dark yellowish brown (10YR 4/4) moist; moderate fine angular blocky structure; very hard, firm, very sticky and very plastic; few very fine roots; common very fine interstitial pores; 20 to 25 percent fine gypsum crystals on faces of peds, in nests, and on threads; violently effervescent; carbonates disseminated and segregated as common fine and medium threads and masses; moderately alkaline (pH 8.0); gradual irregular boundary.

Cky—23 to 36 inches (58 to 91 centimeters); grayish brown (2.5Y 5/2) mixed with light gray (10YR 7/2), brown (7.5YR 5/2), and olive (5Y 5/3) silty clay, very dark grayish brown (2.5Y 3/2) moist; weak angular blocky structure; hard, firm, very sticky and very plastic; common very fine interstitial pores; 20 to 25 percent fine gypsum crystals on faces of peds, in nests, and on threads; violently effervescent; carbonates disseminated and segregated as common fine and medium threads and masses; moderately alkaline (pH 8.0); clear wavy boundary.

Cr—36 to 56 inches (91 to 142 centimeters); weakly cemented mudstone.

Range in characteristics

The depth to paralithic contact is 20 to 40 inches (51 to 102 centimeters). Cracks 1 to 4 inches (2 to 10 centimeters) wide extend from the surface to the paralithic contact.

A horizon:

Hue—10YR dry and moist

Value—6 dry and 4 or 5 moist

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Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—clay or silty clay
Content of clay—40 to 60 percent
Content of organic matter—0.5 to 1.5 percent
Electrical conductivity—4 to 16 decisiemens per meter
Sodium adsorption ratio—2 to 10
Calcium carbonate equivalent—1 to 3 percent
Content of gypsum—0 to 6 percent
Reaction—moderately alkaline

Bky horizons:

Hue—10YR, 5YR, or 5Y dry and moist
Value—4 to 7 dry and 4 or 5 moist
Chroma—1 to 4 dry and moist
Texture of the fine-earth fraction—clay or silty clay
Content of clay—40 to 60 percent
Content of organic matter—0.1 to 1.0 percent
Sodium adsorption ratio—2 to 10
Calcium carbonate equivalent—1 to 10 percent
Content of gypsum—10 to 25 percent
Reaction—moderately alkaline

Cky horizon:

Hue—2.5Y, 5Y, 7.5YR, or 10YR dry and moist
Value—5 to 7 dry and 3 or 4 moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—clay or silty clay
Content of clay—40 to 60 percent
Content of organic matter—0.05 to 0.2 percent
Electrical conductivity—4 to 25 decisiemens per meter
Sodium adsorption ratio—2 to 10
Calcium carbonate equivalent—1 to 10 percent
Content of gypsum—20 to 25 percent
Reaction—moderately alkaline

Beam Series

The Beam series consists of shallow, well drained soils that formed in residuum weathered from calcareous sandstone, shale, siltstone, and/or conglomerate. These soils are hillslopes. Slope is 15 to 75 percent. Beam soils are classified as loamy, mixed, superactive, thermic, shallow Xeric Haplocambids.

Typical pedon

In the survey area of San Luis Obispo County, Carrizo Plain, map unit 221, Beam-Panoza-Hillbrick complex, 30 to 50 percent slopes; about 39 miles (56.3 kilometers) west of downtown Bakersfield; 5 feet (1.5 meters) south and 850 feet (259.1 meters) east of the northwest corner of sec. 27, T. 31 S., R. 21 E.; Mount Diablo Base and Meridian; latitude 35 degrees 12 minutes 17 seconds north and longitude 119 degrees 42 minutes 59 seconds west; USGS Panorama Hills, California, Quadrangle, NAD83.

A—0 to 4 inches (0 to 10 centimeters); light gray (2.5Y 7/2) fine sandy loam, grayish brown (2.5Y 5/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and slightly plastic; common very fine roots; few very fine interstitial and tubular pores; violently effervescent; carbonates disseminated; moderately alkaline (pH 8.2); gradual wavy boundary.

Bk—4 to 15 inches (10 to 38 centimeters); light gray (2.5Y 7/2) fine sandy loam, grayish brown (2.5Y 5/2) moist; massive; soft, very friable, nonsticky and slightly plastic; common very fine and few fine roots; common very fine tubular pores; violently effervescent; carbonates disseminated; moderately alkaline (pH 8.2); clear wavy boundary.

Cr—15 to 23 inches (38 to 58 centimeters); moderately cemented, highly fractured sandstone.

Range in characteristics

The percentage of the surface covered by rock fragments is as follows: 0 to 40 percent by 2- to 75-millimeter gravel, 0 to 10 percent by 75- to 250-millimeter cobbles, and 0 to 10 percent by 250- to 600-millimeter stones consisting of calcareous sandstone, shale, or conglomerate. The depth to paralithic contact is 10 to 20 inches (25 to 51 centimeters). Some pedons have a C horizon, which has characteristics similar to those of the Bk horizon.

A horizon:

Hue—10YR or 2.5Y dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—sandy loam, fine sandy loam, or loam

Content of clay—8 to 25 percent

Content of organic matter—0.5 to 1 percent

Reaction—moderately alkaline

Calcium carbonate equivalent—1 to 4 percent

Content of rock fragments—0 to 35 percent 2- to 75-millimeter gravel, 0 to 10 percent 75- to 250-millimeter cobbles, and 0 to 10 percent 250- to 600-millimeter stones

Bk horizon:

Hue—10YR or 2.5Y dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—fine sandy loam or loam

Content of clay—8 to 25 percent

Content of organic matter—0.2 to 0.4 percent

Reaction—moderately alkaline

Calcium carbonate equivalent—1 to 4 percent

Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel, 0 to 20 percent 75- to 250-millimeter cobbles, and 0 to 10 percent 250- to 600-millimeter stones

Bellyspring Series

The Bellyspring series consists of moderately deep, well drained soils that formed in residuum derived from sandstone. These soils are on hillslopes. Slope is 9 to 50 percent. Bellyspring soils are classified as fine-loamy, mixed, superactive, thermic Mollic Haploxeralfs.

Typical pedon

In the survey area of San Luis Obispo County, Carrizo Plain, map unit 441, Bellyspring-Panoza complex, 15 to 30 percent slopes; about 9 miles (14.5 kilometers) southwest of Taft; about 650 feet (198.1 meters) south and 500 feet (152.4 meters) west of the northeast corner of sec. 20, T. 11 N., R. 25 W.; San Bernardino Base and

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Meridian; latitude 35 degrees 01 minute 56 seconds north and longitude 119 degrees 33 minutes 45 seconds west; USGS Elkhorn Hills, California, Quadrangle, NAD83.

A1—0 to 3 inches (0 to 8 centimeters); brown (10YR 5/3) sandy loam, very dark brown (10YR 3/3) moist; massive; hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular and common fine interstitial pores; 5 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.5); clear smooth boundary.

A2—3 to 13 inches (8 to 33 centimeters); yellowish brown (10YR 5/4) loam, dark brown (10YR 3/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine and few fine and medium tubular pores; 5 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.5); clear smooth boundary.

Bt—13 to 23 inches (33 to 58 centimeters); strong brown (7.5YR 5/6) clay loam, light brown (7.5YR 4/6) moist; massive; hard, friable, moderately sticky and moderately plastic; few very fine roots; few very fine tubular and common very fine interstitial pores; common distinct clay films on faces of peds along fractures, along surfaces of pores, and bridging sand grains; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); gradual wavy boundary.

Bk—23 to 38 inches (58 to 97 centimeters); variegated strong brown (7.5YR 5/6) and light brown (7.5YR 6/4) gravelly sandy loam, strong brown (7.5YR 4/6) moist; massive; hard, friable, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; violently effervescent; carbonates disseminated and segregated as common fine threads; 20 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); gradual irregular boundary.

Cr—38 to 48 inches (97 to 122 centimeters); weakly cemented sandstone.

Range in characteristics

The depth to paralithic contact is 20 to 40 inches (51 to 102 centimeters). About 0 to 25 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sandstone.

A horizons:

Hue—10YR dry and moist

Value—4 or 5 dry and 3 or 4 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—sandy loam or loam

Content of clay—10 to 25 percent

Content of organic matter—0.3 to 1.0 percent

Reaction—slightly alkaline

Content of rock fragments—3 to 10 percent 2- to 75-millimeter gravel

Bt horizon:

Hue—7.5YR dry and moist

Value—5 or 6 dry and 4 or 5 moist

Chroma—5 or 6 dry and moist

Texture of the fine-earth fraction—sandy clay loam or clay loam

Content of clay—28 to 35 percent

Content of organic matter—0.1 to 0.3 percent

Reaction—moderately alkaline

Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel and 0 to 20 percent 75- to 250-millimeter cobbles

Bk horizon:

Hue—7.5YR dry and moist

Value—5 or 6 dry and 4 or 5 moist

Chroma—4 to 6 dry and moist
Texture of the fine-earth fraction—loamy coarse sand, coarse sandy loam, or sandy loam
Content of clay—8 to 18 percent
Content of organic matter—0.05 to 0.2 percent
Reaction—moderately alkaline
Calcium carbonate equivalent—1 to 4 percent
Content of rock fragments—5 to 25 percent 2- to 75-millimeter gravel and 0 to 10 percent 75- to 250-millimeter cobbles

Bitcreek Series

The Bitcreek series consists of very deep, well drained soils that formed in residuum weathered from shale and/or sandstone. These soils are on hillslopes. Slope is 2 to 75 percent. Bitcreek soils are classified as fine-loamy, mixed, superactive, thermic Pachic Argixerolls.

Typical pedon

In map unit 930, Bitcreek-Shimmon-Balhud complex, 9 to 50 percent slopes; Kern County, California; southwest of Maricopa, in the Bitter Creek National Wildlife Refuge; 310 feet (94.5 meters) north and 1,090 feet (332.2 meters) west of the projected southeast corner of sec. 24, T. 10 N., R. 23 W.; latitude 34 degrees 55 minutes 56 seconds north and longitude 119 degrees 23 minutes 26 seconds west; USGS Ballinger Canyon, California, Quadrangle, NAD83.

- A1—0 to 3 inches (0 to 8 centimeters); dark grayish brown (10YR 4/2) sandy clay loam, very dark brown (10YR 2/2) moist; strong medium granular structure; hard, firm, sticky and plastic; many very fine roots; many very fine tubular and interstitial pores; 12 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.
- A2—3 to 8 inches (8 to 20 centimeters); dark grayish brown (10YR 4/2) sandy clay loam, very dark grayish brown (10YR 3/2) moist; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; hard, friable, sticky and plastic; many very fine roots; many very fine tubular and interstitial pores; 9 percent 2- to 75-millimeter gravel; neutral (pH 7.0); clear smooth boundary.
- ABt—8 to 19 inches (20 to 48 centimeters); dark grayish brown (10YR 4/2) sandy clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; many very fine roots; common very fine tubular and many very fine interstitial pores; few faint clay films on faces of peds and bridging sand grains; 11 percent 2- to 75-millimeter gravel; neutral (pH 7.0); clear smooth boundary.
- Bt1—19 to 31 inches (48 to 78 centimeters); grayish brown (10YR 5/2) sandy clay loam, dark brown (10YR 3/2) moist; moderate coarse subangular blocky structure; hard, friable, sticky and plastic; few very fine roots; common very fine tubular and interstitial pores; few distinct and many faint clay films on faces of peds and along surfaces of pores; 12 percent 2- to 75-millimeter gravel; neutral (pH 6.8); clear smooth boundary.
- Bt2—31 to 38 inches (78 to 97 centimeters); brown (10YR 5/3); sandy clay loam, brown (10YR 4/3) moist; moderate coarse subangular blocky structure; hard, firm, sticky and plastic; common very fine roots; common very fine tubular and interstitial pores; many faint clay films on faces of peds and along surfaces of pores; 12 percent 2- to 75-millimeter gravel; slightly acid (pH 6.5); abrupt smooth boundary.

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Bt3—31 to 60 inches (97 to 152 centimeters); light yellowish brown (10YR 6/4); clay, dark yellowish brown (10YR 4/6) moist; moderate medium and coarse subangular blocky structure; very hard, firm, very sticky and very plastic; few very fine roots; common very fine tubular and interstitial pores; common distinct thick clay films on faces of peds and along surfaces of pores; slightly acid (pH 6.5)

Range in characteristics

About 0 to 20 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sandstone and/or shale.

A and ABt horizons:

Hue—10YR dry and moist

Value—4 or 5 dry and 2 or 3 moist

Chroma—2 dry and moist

Texture of the fine-earth fraction—sandy loam, loam, sandy clay loam, or clay loam

Content of clay—19 to 35 percent

Content of organic matter—1 to 4 percent

Reaction—slightly acid or neutral

Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel

Bt horizons:

Hue—10YR or 7.5YR dry and moist

Value—5 or 6 dry and 3 or 4 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—loam, sandy clay loam, or clay loam

Content of clay—19 to 55 percent

Content of organic matter—0.05 to 1.5 percent

Reaction—slightly acid or neutral

Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel

Buttonwillow Series

The Buttonwillow series consists of very deep, somewhat poorly drained soils that formed in lacustrine deposits over alluvium derived from mixed rock sources. These soils are on basin floors. Slope is 0 to 1 percent. Buttonwillow soils are classified as clayey over loamy, smectitic, nonacid, thermic Vertic Torrifuvents.

Typical pedon

In map unit 110, Buttonwillow clay, partially drained, 0 to 1 percent slopes; Kern County, California; about 19 miles (30.6 kilometers) southwest of Bakersfield and 3.8 miles (6.1 kilometers) west of J.G. Boswell Ranch headquarters; about 1,730 feet (527.3 meters) south and 120 feet (36.6 meters) west of the northeast corner of sec. 17, T. 31 S., R. 25 E.; Mount Diablo Base and Meridian; latitude 35 degrees 14 minutes 01 second north and longitude 119 degrees 18 minutes 23 seconds west; USGS Mouth of Kern, California, Quadrangle, NAD83.

Ap—0 to 8 inches (0 to 20 centimeters); gray (5Y 5/1) clay, black (5Y 2.5/1) moist; strong coarse cloddy structure; hard, firm, sticky and plastic; common very fine and fine roots; common very fine tubular pores; neutral (pH 6.6); clear wavy boundary.

A1—8 to 24 inches (20 to 61 centimeters); gray (5Y 5/1) clay loam, black (5Y 2.5/1) moist; moderate medium prismatic structure parting to moderate fine prismatic; hard, firm, sticky and plastic; common very fine and few fine and medium roots; common very fine tubular pores; neutral (pH 6.6); gradual wavy boundary.

- A2—24 to 30 inches (61 to 76 centimeters); gray (5Y 5/1) clay, black (5Y 2.5/1) moist; weak coarse prismatic structure parting to strong coarse angular blocky; very hard, firm, sticky and plastic; common very fine and few fine roots; few very fine tubular pores; common fine distinct redoximorphic features, very dark grayish brown (2.5Y 3/2) moist; common distinct pressure faces; gypsum segregated as common fine seams and concretions; neutral (pH 6.8); abrupt smooth boundary.
- 2C1—30 to 36 inches (76 to 91 centimeters); gray (5Y 6/1) and olive gray (5Y 5/2) fine sandy loam, including pockets of loamy fine sand and clay loam; gray (5Y 5/1) and olive gray (5Y 4/2) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine and few fine roots; few very fine and fine tubular and few very fine interstitial pores; neutral (pH 7.3); clear irregular boundary.
- 2C2—36 to 43 inches (91 to 109 centimeters); light gray (5Y 7/1) loamy fine sand, gray (5Y 5/1) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and few fine roots; few very fine interstitial pores; neutral (pH 7.3); abrupt wavy boundary.
- 3C3—43 to 60 inches (109 to 152 centimeters); light olive gray (5Y 6/2) silty clay loam, olive gray (5Y 4/2) moist; weak fine prismatic structure parting to moderate medium angular blocky; hard, very firm, sticky and plastic; few very fine and few fine roots; few very fine and fine tubular pores; common fine distinct light olive brown (2.5Y 5/4) redoximorphic features, olive brown (2.5Y 4/4) moist; neutral (pH 6.8); clear wavy boundary.
- 3C4—60 to 67 inches (152 to 170 centimeters); light olive gray (5Y 6/2) silty clay loam, olive gray (5Y 4/2) moist; weak fine prismatic structure parting to moderate medium angular blocky; hard, friable, sticky and plastic; few very fine and few fine roots; few very fine and few fine tubular pores; common fine distinct light olive brown (2.5Y 5/4) redoximorphic features, olive brown (2.5Y 4/4) moist; slightly alkaline (pH 7.5); clear smooth boundary.
- 4C5—67 to 70 inches (170 to 178 centimeters); light olive gray (5Y 6/2) silt loam, olive gray (5Y 4/2) moist; weak very fine prismatic structure parting to moderate medium angular blocky; hard, friable, slightly sticky and plastic; common very fine and few fine roots; common very fine tubular pores; common fine distinct light olive brown (2.5Y 5/4) redoximorphic features, olive brown (2.5Y 4/4) moist; moderately alkaline (pH 8.1).

Range in characteristics

The clayey material overlying the loamy material is 24 to 28 inches (61 to 71 centimeters) thick. It averages 40 to 50 percent clay. The underlying loamy material averages 10 to 22 percent clay. Distinct redoximorphic features occur below a depth of 24 inches (61 centimeters).

A horizons:

- Hue—10YR or 5Y dry and moist
- Value—4 or 5 dry and 1 to 3 moist
- Chroma—1 dry and moist
- Texture of the fine-earth fraction—clay
- Content of clay—40 to 55 percent
- Content of organic matter—0.5 to 2 percent
- Reaction—slightly acid or neutral

2C horizons:

- Hue—5Y dry and moist
- Value—5 to 7 dry and 4 or 5 moist
- Chroma—1 or 2 dry and moist
- Texture of the fine-earth fraction—stratified sand to fine sandy loam
- Content of clay—5 to 18 percent

Content of organic matter—0.1 to 0.5 percent

Reaction—neutral or slightly alkaline

3C and 4C horizons:

Hue—5Y dry and 5Y or 2.5Y moist

Value—6 dry and 4 or 3 moist

Chroma—2 dry and moist

Texture of the fine-earth fraction—silt loam or silty clay loam

Content of clay—10 to 40 percent

Content of organic matter—0.2 to 0.8 percent

Reaction—neutral to moderately alkaline

Calcic Haploxerepts

Calcic Haploxerepts consist of very deep, well drained soils that formed in residuum weathered from sandstone and shale. These soils are on hillslopes. Slope is 30 to 100 percent.

Typical pedon

In map unit 398, Calcic Haploxerepts-Calcic Pachic Argixerolls, fine-Xerorthents, shallow, complex, 30 to 75 percent slopes; Kern County, California; in the San Emidio Hills, about 2,175 feet (662.9 meters) southwest of a water tank; 6,000 feet (1,828.8 meters) north of the northwest corner of sec. 19, in an unsectionalized area; T. 10 N., R. 22 W.; San Bernardino Base and Meridian; USGS Santiago Creek, California, Quadrangle, NAD83.

This pedon is representative of the Calcic Haploxerepts in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

A—0 to 4 inches (0 to 10 centimeters); brown (10YR 5/3) clay loam, dark brown (10YR 3/3) moist; moderate medium prismatic structure parting to moderate medium subangular blocky; friable, hard, slightly sticky and slightly plastic; common coarse and very fine roots; common very fine irregular, few very fine tubular, and few very fine tubular pores; slightly effervescent; carbonates disseminated; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk1—4 to 9 inches (10 to 23 centimeters); brown (10YR 5/3) clay loam, brown (10YR 4/3) moist; moderate medium prismatic structure parting to moderate medium subangular blocky; extremely hard, firm, slightly sticky and slightly plastic; common coarse and very fine roots; few very fine irregular and common very fine tubular pores; strongly effervescent; carbonates disseminated; few very fine gypsum nests; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear smooth boundary.

Bk2—9 to 18 inches (23 to 46 centimeters); brown (10YR 5/3) gravelly clay loam, brown (10YR 4/3) moist; weak medium prismatic structure parting to moderate fine subangular blocky; very friable, slightly hard, slightly sticky and slightly plastic; few very fine and coarse roots; common very fine irregular and few very fine tubular pores; few very fine gypsum nests and 10 percent coatings on faces of peds; violently effervescent; carbonates disseminated and segregated as many fine threads; 20 percent 2- to 75-millimeter gravel; moderately alkaline (pH 7.9); clear smooth boundary.

Bk3—18 to 25 inches (46 to 64 centimeters); pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; very friable, moderately hard, slightly sticky and slightly plastic; few very fine and coarse roots; common very fine irregular and many very fine tubular pores; few very fine gypsum nests and 10 percent coatings on faces of peds; strongly effervescent; carbonates

- disseminated and segregated as common very fine threads; 13 percent 2- to 75-millimeter gravel; moderately alkaline (pH 7.8); clear smooth boundary.
- Cy—25 to 37 inches (64 to 94 centimeters); very pale brown (10YR 7/3) clay loam, brown (10YR 5/3) moist; strong medium angular blocky structure; slightly rigid, extremely hard, slightly sticky and slightly plastic; few very fine and coarse roots; common very fine irregular pores; many fine and medium gypsum nests and 15 percent coatings on faces of peds; strongly effervescent; carbonates disseminated; neutral (pH 7.0); clear smooth boundary.
- C—37 to 60 inches (94 to 152 centimeters); yellow (2.5Y 7/3) loam, light brownish gray (2.5Y 6/2) moist; strong medium angular blocky structure; slightly rigid, extremely hard, slightly sticky and slightly plastic; few fine irregular pores; few fine gypsum nests and 15 percent coatings on faces of peds; strongly effervescent; carbonates disseminated; slightly acid (pH 6.3)

Range in characteristics

About 0 to 20 percent of the surface is covered by 2- to 75-millimeter gravel consisting of mixed rock. The content of clay is 20 to 35 percent.

A horizon:

Hue—10YR dry and moist
Value—3 to 5 dry and moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—loam, clay loam, or silty clay loam
Content of organic matter—1 to 3 percent
Calcium carbonate equivalent—1 to 2 percent
Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel
Reaction—slightly acid to moderately alkaline

Bk horizons:

Hue—10YR dry and moist
Value—5 or 6 dry and 4 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—loam, clay loam, or silty clay loam
Content of organic matter—0.3 to 2 percent
Calcium carbonate equivalent—1 to 8 percent
Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel
Reaction—slightly acid to moderately alkaline

C horizon:

Hue—10YR or 2.5Y dry and moist
Value—3 to 7 dry moist
Chroma—2 to 6 dry and moist
Texture of the fine-earth fraction—loam, clay loam, or silty clay loam
Content of organic matter—0.05 to 3 percent
Calcium carbonate equivalent—1 to 8 percent
Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel
Reaction—slightly acid to moderately alkaline

Calcic Pachic Argixerolls, Fine

Calcic Pachic Argixerolls, fine, are very deep, well drained soils that formed in alluvium derived from marine sedimentary rock. These soils are on uplifted terraces. Slope is 30 to 75 percent.

Typical pedon

In map unit 398, Calcic Haploxerepts-Calcic Pachic Argixerolls, fine-Xerorthents, shallow, complex, 30 to 75 percent slopes; Kern County, California; about 9 miles (14.5 kilometers) southeast of Maricopa; 660 feet (201.2 meters) south and 1,525 feet (464.8 meters) east of the northwest corner of sec. 23, T. 10 N., R. 23 W.; San Bernardino Base and Meridian; latitude 34 degrees 56 minutes 33.0 seconds north and longitude 119 degrees 18 minutes 30 seconds west; USGS Santiago Creek, California, Quadrangle, NAD83.

This pedon is representative of the fine Calcic Pachic Argixerolls in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

A—0 to 6 inches (0 to 15 centimeters); grayish brown (10YR 5/2) clay loam, very dark grayish brown (10YR 3/2) moist; moderate coarse prismatic structure parting to moderate medium subangular blocky; very firm, very hard, moderately sticky and moderately plastic; common very fine roots throughout; few fine tubular, common medium interstitial, and common very fine interstitial pores; very slightly effervescent; carbonates disseminated; slightly alkaline (pH 7.4); gradual wavy boundary.

Btk1—6 to 21 inches (15 to 53 centimeters); grayish brown (10YR 5/2) clay loam, very dark grayish brown (10YR 3/2) moist; moderate coarse prismatic structure parting to moderate medium subangular blocky; very firm, very hard, moderately sticky and moderately plastic; few very fine roots throughout; common fine tubular and few very fine interstitial pores; common patchy distinct clay films along surfaces of pores and on all faces of peds; slightly effervescent; carbonates disseminated; slightly alkaline (pH 7.6); gradual wavy boundary.

Btk2—21 to 44 inches (53 to 112 centimeters); grayish brown (10YR 5/2) clay loam, very dark grayish brown (10YR 3/2) moist; weak coarse prismatic structure; very firm, extremely hard, moderately sticky and moderately plastic; few very fine roots throughout; common fine tubular, common medium tubular, and few very fine interstitial pores; common patchy distinct clay films along surfaces of pores and on all faces of peds; strongly effervescent; carbonates disseminated and segregated as few fine threads; slightly alkaline (pH 7.6); clear wavy boundary.

Btk3—44 to 56 inches (112 to 142 centimeters); 30 percent very pale brown (10YR 7/3), 30 percent grayish brown (10YR 5/2), and 40 percent light brownish gray (2.5Y 6/2) clay, 30 percent brown (10YR 5/3), 30 percent very dark grayish brown (10YR 3/2), and 40 percent dark grayish brown (2.5Y 4/2) moist; weak coarse prismatic structure; firm, hard, moderately sticky and moderately plastic; few very fine roots throughout; few fine tubular, common very fine tubular, and few very fine interstitial pores; common patchy clay films bridging sand grains; violently effervescent; carbonates disseminated and segregated as common fine threads; slightly alkaline (pH 7.6); clear wavy boundary.

Bk—56 to 64 inches (142 to 163 centimeters); pale brown (10YR 6/3) and pale yellow (2.5Y 8/4) clay, pale yellow (2.5Y 7/4) and pale brown (10YR 6/3) moist; massive; friable, hard, moderately sticky and moderately plastic; few medium tubular, few very fine tubular, and few very fine interstitial pores; violently effervescent; carbonates disseminated and segregated as common irregular masses; slightly alkaline (pH 7.6).

Range in characteristics

A horizon:

Hue—10YR dry and moist

Value—4 or 5 dry and 2 or 3 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—clay loam
Content of clay—28 to 40 percent
Content of organic matter—1 to 3 percent
Calcium carbonate equivalent—0 to 2 percent
Reaction—neutral or slightly alkaline

B horizons:

Hue—10YR or 2.5Y dry and moist
Value—5 to 8 dry and 3 to 6 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—clay loam, silty clay loam, or clay
Content of clay—28 to 50 percent
Content of organic matter—1 to 1.5 percent in the Btk1 horizon and 0.5 to 0.8 percent in the rest of the B horizons
Calcium carbonate equivalent—1 to 8 percent
Reaction—neutral or slightly alkaline

Calflax Series

The Calflax series consists of very deep, well drained soils that formed in alluvium derived from rocks of mixed mineralogy. These soils are on fan skirts. Slope is 0 to 1 percent. Calflax soils are classified as fine-loamy, mixed, superactive, thermic Sodic Haplocambids.

Typical pedon

In map unit 133, Calflax loam 0 to 1 percent slopes; Kern County, California; about 0.5 mile (0.8 kilometer) west of Lakeview; 100 feet (30.5 meters) north and 2,100 feet (640.1 meters) west of the southeast corner of sec. 31, T. 32 S., R. 27 E.; Mount Diablo Range and Meridian; latitude 35 degrees 05 minutes 41 seconds north and longitude 119 degrees 06 minutes 00 seconds west; USGS Coal Oil Canyon, California, Quadrangle, NAD83.

Ap—0 to 6 inches (0 to 15 centimeters); light olive brown (2.5Y 5/4) loam, olive brown (2.5Y 4/4) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine and few fine and medium roots; few very fine tubular pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.3); abrupt smooth boundary.

Bw—6 to 21 inches (15 to 53 centimeters); light olive brown (2.5Y 5/4), stratified clay loam to silty clay loam, olive brown (2.5Y 4/4) moist; weak coarse prismatic structure parting to weak coarse subangular blocky; hard, friable, moderately sticky and moderately plastic; common very fine and few fine and medium roots; few very fine tubular pores; strongly effervescent; carbonates disseminated; few fine soft masses and threads of gypsum; strongly alkaline (pH 8.8); clear smooth boundary.

C1—21 to 30 inches (53 to 76 centimeters); light olive brown (2.5Y 5/4), stratified clay loam to silty clay loam, olive brown (2.5Y 4/4) moist; massive; hard, friable, slightly sticky and moderately plastic; common very fine roots; common very fine and few fine and medium tubular pores; few distinct yellowish red (5YR 4/6) redoximorphic features; strongly effervescent; carbonates disseminated and segregated as few fine soft masses and filaments; moderately alkaline (pH 8.2); abrupt wavy boundary.

C2—30 to 37 inches (76 to 94 centimeters); light olive brown (2.5Y 5/4), stratified clay loam to silty clay loam, olive brown (2.5Y 4/4) moist; massive; hard, friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; strongly effervescent; carbonates disseminated and segregated as

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- few fine soft masses and filaments; moderately alkaline (pH 8.1); abrupt smooth boundary.
- C3—37 to 46 inches (94 to 117 centimeters); light olive brown (2.5Y 5/3) sandy loam, olive brown (2.5Y 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine interstitial and few very fine tubular pores; violently effervescent; carbonates disseminated; few fine soft masses and threads of gypsum; moderately alkaline (pH 8.3); clear smooth boundary.
- C4—46 to 52 inches (117 to 132 centimeters); grayish brown (2.5Y 5/2) loam, dark grayish brown (2.5Y 4/2) moist; massive; firm, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine and fine tubular pores; violently effervescent; carbonates disseminated; few distinct yellowish red (5YR 4/6) redoximorphic features; moderately alkaline (pH 8.1); abrupt smooth boundary.
- C5—52 to 60 inches (132 to 152 centimeters); grayish brown (2.5Y 5/2) loam, dark grayish brown (2.5Y 4/2) moist; massive; firm, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine and few fine tubular pores; violently effervescent; carbonates disseminated; moderately alkaline (pH 7.9)

Range in characteristics

A horizon:

Hue—2.5Y or 10YR dry and moist
Value—5 or 6 dry and 3 or 4 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—fine sandy loam, loam, or clay loam
Content of clay—14 to 30 percent
Content of organic matter—0.5 to 1 percent
Electrical conductivity—2 to 8 decisiemens per meter
Sodium adsorption ratio—2 to 15
Calcium carbonate equivalent—1 to 5 percent
Reaction—moderately alkaline or strongly alkaline

Bw horizon:

Hue—2.5Y or 10YR dry and moist
Value—5 or 6 dry and 4 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—stratified clay loam to silty clay loam
Content of clay—27 to 40 percent
Content of organic matter—0.3 to 1 percent
Electrical conductivity—2 to 8 decisiemens per meter
Sodium adsorption ratio—2 to 15
Calcium carbonate equivalent—1 to 5 percent
Reaction—moderately alkaline or strongly alkaline

C horizons:

Hue—2.5Y or 10YR dry and moist
Value—5 to 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—stratified clay loam to silty clay or stratified sandy loam or loam
Content of clay—10 to 40 percent
Content of organic matter—0.1 to 1.0 percent
Electrical conductivity—2 to 16 decisiemens per meter
Sodium adsorption ratio—2 to 30
Calcium carbonate equivalent—0 to 5 percent
Reaction—moderately alkaline or strongly alkaline

Calleguas Series

The Calleguas series consists of shallow, well drained soils that formed in residuum weathered from calcareous sandstone and shale. These soils are on hillslopes. Slope is 30 to 100 percent. Calleguas soils are classified as loamy, mixed, superactive, calcareous, thermic, shallow Typic Xerorthents.

Typical pedon

In map unit 403, Loslobos-Calleguas association, 30 to 100 percent slopes; Kern County, California; about 30 miles (48.3 kilometers) south of downtown Bakersfield, between Pleito Creek and Pleitito Creek; 960 feet (292.6 meters) west and 2,240 feet (682.7 meters) south of the northeast corner of sec. 16, T. 10 N., R. 21 W.; San Bernardino Base and Meridian; latitude 34 degrees 57 minutes 17 seconds north and longitude 119 degrees 07 minutes 16 seconds west; USGS Pleito Hills, California, Quadrangle, NAD83.

- A1—0 to 7 inches (0 to 18 centimeters); light yellowish brown (2.5Y 6/3) clay loam, olive brown (2.5Y 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky and plastic; common very fine roots; few very fine and fine tubular pores; strongly effervescent; carbonates disseminated; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 7.9); clear wavy boundary.
- A2—7 to 15 inches (18 to 38 centimeters); light yellowish brown (2.5Y 6/3) clay loam, olive brown (2.5Y 4/3) moist; moderate medium subangular blocky structure parting to moderate fine subangular blocky; slightly hard, friable, sticky and plastic; common very fine roots; common very fine and fine tubular pores; 12 percent angular gravel; strongly effervescent; carbonates disseminated; 12 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); clear wavy boundary.
- Cr—15 to 25 inches (38 to 64 centimeters); moderately cemented, fractured, weathered shale.

Range in characteristics

The depth to paralithic contact is 8 to 20 inches (20 to 51 centimeters). About 0 to 15 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sandstone and/or shale.

A horizons:

- Hue—2.5Y dry and moist
- Value—6 dry and 4 moist
- Chroma—2 or 3 dry and moist
- Texture of the fine-earth fraction—loam or clay loam
- Content of clay—20 to 35 percent
- Content of organic matter—0.2 to 1.5 percent
- Reaction—moderately alkaline
- Content of rock fragments—0 to 14 percent 2- to 75-millimeter gravel

Cerini Series

The Cerini series consists of very deep, well drained soils that formed in alluvium derived from sedimentary and/or granitoid rock. These soils are on alluvial fans. Slope is 0 to 5 percent. Cerini soils are classified as fine-loamy, mixed, superactive, thermic Fluventic Haplocambids.

Typical pedon

In map unit 132, Cerini loam, 0 to 2 percent slopes; Kern County, California; about 7 miles (11.3 kilometers) northeast of Maricopa; 160 feet (48.8 meters) north and

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220 feet (67.1 meters) west of the southeast corner of sec. 33, T. 32 S., R. 25 E.; Mount Diablo Base and Meridian; latitude 35 degrees 05 minutes 40 seconds north and longitude 119 degrees 17 minutes 17 seconds west; USGS Pentland, California, Quadrangle, NAD83.

- Ap—0 to 10 inches (0 to 25 centimeters); pale brown (10YR 6/3) loam, dark brown (10YR 4/3) moist; coarse cloddy structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine roots; few very fine tubular and interstitial pores in clods; carbonates disseminated; strongly effervescent; moderately alkaline (pH 8.1); abrupt smooth boundary.
- Bw1—10 to 17 inches (25 to 43 centimeters); pale brown (10YR 6/3) loam, dark brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine roots; few very fine tubular pores; carbonates disseminated; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.
- Bw2—17 to 24 inches (43 to 61 centimeters); pale brown (10YR 6/3) loam, dark brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and moderately plastic; common very fine roots; few very fine, fine, and medium tubular pores; carbonates disseminated; strongly effervescent; moderately alkaline (pH 8.3); abrupt wavy boundary.
- C1—24 to 47 inches (61 to 119 centimeters); pale brown (10YR 6/3) and light brownish grayish (10YR 6/2), stratified fine sandy loam to silty clay loam, dark brown (10YR 4/3) and dark grayish brown (10YR 4/2) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few fine tubular and common very fine tubular and interstitial pores; carbonates disseminated; violently effervescent; moderately alkaline (pH 7.9); abrupt smooth boundary.
- C2—47 to 69 inches (119 to 175 centimeters); pale brown (10YR 6/3) and light yellowish brown (10YR 6/4), stratified sandy loam to sandy clay loam, dark brown (10YR 4/3) and dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine and few fine tubular and common very fine interstitial pores; carbonates disseminated; violently effervescent; moderately alkaline (pH 7.9)

Range in characteristics

A horizon:

- Hue—10YR dry and moist
- Value—5 or 6 dry and 3 or 4 moist
- Chroma—2 to 4 dry and moist
- Texture of the fine-earth fraction—sandy loam, loam, or clay loam
- Content of clay—10 to 40 percent
- Content of organic matter—0.8 to 1 percent
- Calcium carbonate equivalent—0 to 4 percent
- Reaction—slightly alkaline or moderately alkaline
- Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel

Bw horizons:

- Hue—10YR dry and 10YR or 2.5Y moist
- Value—5 to 7 dry and 4 to 6 moist
- Chroma—2 to 4 dry and moist
- Texture of the fine-earth fraction—clay loam or clay
- Content of clay—20 to 40 percent
- Content of organic matter—0.2 to 1 percent
- Calcium carbonate equivalent—0 to 4 percent
- Reaction—slightly alkaline or moderately alkaline
- Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel

C horizons:

- Hue—10YR dry and 10YR or 2.5Y moist
- Value—5 to 7 dry and 4 to 6 moist
- Chroma—2 to 4 dry and moist
- Texture of the fine-earth fraction—stratified sandy loam to silty clay loam
- Content of clay—8 to 40 percent
- Content of organic matter—0.1 to 1 percent
- Calcium carbonate equivalent—1 to 4 percent
- Reaction—slightly alkaline or moderately alkaline
- Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel

Chuchupate Series

The Chuchupate series consists of moderately deep, well drained soils that formed in residuum weathered from schist. These soils are on mountain slopes. Slope is 50 to 75 percent. Chuchupate soils are classified as loamy-skeletal, mixed, superactive, mesic Typic Haploxerolls.

Typical pedon

In map unit 880, Chuchupate gravelly sandy loam, 50 to 75 percent slopes; Kern County, California; in the Lebec area, about 45 miles (72.4 kilometers) south of Bakersfield; 510 feet (155.5 meters) south and 475 feet (144.8 meters) west of the northeast corner of sec. 28, T. 9 N., R. 19 W.; Mount Diablo Base and Meridian; latitude 34 degrees 50 minutes 32 seconds north and longitude 118 degrees 53 minutes 32 seconds west; USGS Frazier Mountain, California, Quadrangle, NAD83.

- Oi—0 to 1 inch (0 to 3 centimeters); litter of leaves and twigs; moderately acid (pH 6.0); clear smooth boundary.
- A—1 to 10 inches (3 to 25 centimeters); brown (10YR 5/3) gravelly sandy loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; many fine and very fine and common medium roots; common very fine tubular and many very fine interstitial pores; 30 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt wavy boundary.
- Bt1—10 to 21 inches (25 to 53 centimeters); light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common medium and fine, and few coarse roots; many very fine tubular and many very fine interstitial pores; common distinct clay films on the surface of gravel; 45 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.5); abrupt wavy boundary.
- Bt2—21 to 36 inches (53 to 91 centimeters); brownish yellow (10YR 6/6) very gravelly sandy loam, dark yellowish brown (10YR 4/6) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common medium, fine, and very fine and few coarse roots; common fine and few fine tubular and common very fine interstitial pores; common distinct clay films on gravel; 55 percent 2- to 75-millimeter gravel; slightly acid (pH 6.3); abrupt smooth boundary.
- R—36 to 46 inches (91 to 117 centimeters); very strongly cemented, slightly fractured schist.

Range in characteristics

The depth to lithic contact is 20 to 40 inches (51 to 102 centimeters). About 20 to 50 percent of the surface is covered by 2- to 75-millimeter gravel consisting of schist.

A horizon:

Hue—10YR dry and moist
Value—4 or 5 dry and 2 or 3 moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—sandy loam or sandy clay loam
Content of clay—5 to 20 percent
Content of organic matter—3.0 to 5.0 percent
Reaction—neutral or slightly alkaline
Content of rock fragments—15 to 40 percent 2- to 75-millimeter gravel

Bt horizons:

Hue—10YR dry and moist
Value—4 to 6 dry and 3 or 4 moist
Chroma—3 to 6 dry and moist
Texture of the fine-earth fraction—sandy loam or sandy clay loam
Content of clay—5 to 20 percent
Content of organic matter—0.05 to 2.0 percent
Reaction—slightly acid to slightly alkaline
Content of rock fragments—35 to 65 percent 2- to 75-millimeter gravel

Cochora Series

The Cochora series consists of shallow, well drained soils that formed in residuum weathered from sedimentary rock. These soils are on hillslopes. Slope is 2 to 50 percent. Cochora soils are classified as loamy, mixed, superactive, calcareous, thermic, shallow Typic Torriorthents.

Typical pedon

In map unit 470, Pyxo-Cochora association, 15 to 30 percent slopes; on the eastern foothills of the Temblor Range, about 6 miles (9.7 kilometers) northwest of Taft; 525 feet (160.0 meters) north and 850 feet (259.2 meters) east of the southwest corner of sec. 6, T. 32 S., R. 23 E.; Mount Diablo Base and Meridian; latitude 35 degrees 09 minutes 48 seconds north and longitude 119 degrees 33 minutes 09 seconds west; USGS Fellows, California, Quadrangle, NAD83.

A—0 to 2 inches (0 to 5 centimeters); light gray (2.5Y 7/2) loam, olive brown (2.5Y 4/4) moist; moderate medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; 10 percent 2- to 75-millimeter gravel; noneffervescent; slightly alkaline (pH 7.5); clear smooth boundary.

Bw—2 to 9 inches (5 to 23 centimeters); light gray (10YR 7/2) loam, yellowish brown (10YR 5/4) moist; weak medium and coarse angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 10 percent 2- to 75-millimeter gravel; slightly effervescent; carbonates disseminated; moderately alkaline (pH 7.9); clear wavy boundary.

C—9 to 15 inches (23 to 38 centimeters); white (2.5Y 8/2) sandy loam, light olive brown (2.5Y 5/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; 10 percent 2- to 75-millimeter gravel; strongly effervescent; carbonates disseminated; moderately alkaline (pH 7.9); abrupt wavy boundary.

Cr—15 to 25 inches (38 to 63 centimeters); moderately cemented sandstone.

Range in characteristics

The depth to paralithic contact is 12 to 20 inches (31 to 51 centimeters). About 0 to 20 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sandstone and/or shale.

A horizon:

Hue—10YR or 2.5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—2 or 3 dry and 3 or 4 moist
Texture of the fine-earth fraction—sandy loam, fine sandy loam, or loam
Content of clay—8 to 18 percent
Content of organic matter—0.25 to 1.0 percent
Calcium carbonate equivalent—0 to 5 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

Bw horizon:

Hue—10YR or 2.5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—2 or 3 dry and 3 or 4 moist
Texture of the fine-earth fraction—sandy loam, fine sandy loam, or loam
Content of clay—8 to 18 percent
Content of organic matter—0.2 to 0.4 percent
Calcium carbonate equivalent—1 to 5 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

C horizon:

Hue—10YR or 2.5Y dry and moist
Value—7 or 8 dry and 5 to 8 moist
Chroma—1 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—8 to 18 percent
Content of organic matter—0.05 to 0.2 percent
Calcium carbonate equivalent—1 to 5 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

Copus Series

The Copus series consists of very deep, very poorly drained soils that formed in lacustrine deposits derived from rocks of mixed mineralogy. These soils are on basin floors. Slope is 0 to 1 percent. Copus soils are classified as fine, smectitic, thermic Xeric Endoaquerts.

Typical pedon

In map unit 140, Copus silty clay, partially drained, 0 to 1 percent slopes; Kern County, California; about 25 miles (40.2 kilometers) southwest of downtown Bakersfield; 160 feet (48.8 meters) north and 1,970 feet (600.5 meters) west of the southeast corner of sec. 34, T. 31 S., R. 25 E.; latitude 35 degrees 10 minutes 51 seconds north and longitude 119 degrees 16 minutes 36 seconds west; USGS Mouth of Kern, California, Quadrangle, NAD83.

Ap1—0 to 5 inches (0 to 13 centimeters); gray (10YR 5/1) silty clay, very dark grayish brown (10Y 3/2) moist; strong coarse and very coarse prismatic structure parting

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- to moderate fine granular; hard, friable, very sticky and very plastic; few very fine, fine, and medium roots; few very fine tubular and common very fine and fine interstitial pores; strongly acid (pH 5.4); clear smooth boundary.
- Ap2—5 to 17 inches (13 to 43 centimeters); grayish brown (10YR 5/2) silty clay, very dark grayish brown (10YR 3/2) moist; moderate very coarse prismatic structure parting to moderate medium subangular blocky; very hard, firm, very sticky and very plastic; common very fine and few fine and medium roots; common very fine tubular pores; moderately acid (pH 5.7); clear wavy boundary.
- Bw—17 to 23 inches (43 to 58 centimeters); grayish brown (10YR 5/2) clay, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; very hard, firm, very sticky and very plastic; common very fine and few fine and medium roots; few very fine tubular pores; common medium light yellowish brown (10YR 6/4) distinct redoximorphic features, dark yellowish brown (10YR 4/4) moist; very strongly acid (pH 4.5); abrupt wavy boundary.
- Byss—23 to 39 inches (58 to 99 centimeters); light grayish brown (10YR 6/2) clay, very dark grayish brown (10YR 3/2) moist; moderate fine angular blocky structure; very hard, firm, very sticky and very plastic; common very fine roots; few very fine tubular pores; common distinct slickensides; common fine masses and filaments of gypsum; many medium light yellowish brown (10YR 6/4) distinct redoximorphic features, dark yellowish brown (10YR 4/4) moist; extremely acid (pH 4.4); clear wavy boundary.
- Bgy1—39 to 51 inches (99 to 130 centimeters); brownish gray (2.5Y 5/2) clay, very dark grayish brown (2.5Y 3/2) moist; weak fine angular blocky structure; very hard, firm, very sticky and very plastic; common very fine roots; few very fine tubular pores; common fine masses and threads of gypsum; few fine prominent light brown (7.5YR 6/4) redoximorphic features, dark brown (7.5YR 4/4) moist; few fine and medium very dark gray (2.5Y 3/1) distinct redoximorphic features when the soil is moist, disappearing as the soil dries; very strongly acid (pH 4.5); clear wavy boundary.
- Bgy2—51 to 60 inches (130 to 152 centimeters); brownish gray (2.5Y 5/2) clay, very dark grayish brown (2.5Y 3/2) moist; massive; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine tubular pores; few fine masses and threads of gypsum; few fine prominent light brown (7.5YR 6/4) redoximorphic features, dark brown (7.5YR 4/4) moist; few fine and medium distinct very dark gray (2.5Y 3/1) redoximorphic features when the soil is moist, disappearing as the soil dries; very strongly acid (pH 4.8).

Range in characteristics

Ap horizons:

- Hue—10YR or 5Y dry and moist
- Value—5 or 6 dry and 2 or 3 moist
- Chroma—1 or 2 dry and moist
- Texture of the fine-earth fraction—silty clay or clay
- Content of clay—40 to 60 percent
- Content of organic matter—3 to 6 percent
- Electrical conductivity—2 to 8 decisiemens per meter
- Sodium adsorption ratio—1 to 3
- Content of gypsum—0 to 10 percent
- Reaction—extremely acid to slightly acid

Bw horizon:

- Hue—10YR, 2.5Y, or 5Y dry and moist
- Value—5 or 6 dry and 3 or 4 moist
- Chroma—0 to 2 dry and moist
- Texture of the fine-earth fraction—silty clay loam, silty clay, or clay

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Content of clay—34 to 70 percent
Content of organic matter—3 to 5 percent
Electrical conductivity—2 to 8 decisiemens per meter
Sodium adsorption ratio—1 to 3
Content of gypsum—2 to 10 percent
Reaction—extremely acid to slightly acid

Byss horizon:

Hue—10YR, 2.5Y, or 5Y dry and moist
Value—5 or 6 dry and 3 or 4 moist
Chroma—1 to 4 dry and moist
Texture of the fine-earth fraction—silty clay or clay
Content of clay—34 to 70 percent
Content of organic matter—2 to 4 percent
Electrical conductivity—2 to 8 decisiemens per meter
Sodium adsorption ratio—1 to 3
Content of gypsum—2 to 10 percent
Reaction—extremely acid to slightly acid

Bgy horizons:

Hue—2.5Y or 5Y dry and moist
Value—5 or 6 dry and 3 to 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—silty clay loam, silty clay, or clay
Content of clay—34 to 70 percent
Content of organic matter—0.75 to 2.5 percent
Electrical conductivity—2 to 8 decisiemens per meter
Sodium adsorption ratio—1 to 5
Content of gypsum—2 to 10 percent
Reaction—extremely acid to slightly acid

Cuyama Series

The Cuyama series consists of very deep, well drained soils that formed in alluvium derived dominantly from granitoid rock. These soils are on fan remnants. Slope is 2 to 30 percent. Cuyama soils are classified as fine-loamy, mixed, superactive, thermic Xeric Haplargids.

Typical pedon

In map unit 332, Cuyama sandy loam, 15 to 30 percent slopes; Kern County, California; about 2 miles (3.2 kilometers) northeast of Taft; 250 feet (76.2 meters) south and 1,080 feet (329.2 meters) east of the northwest corner of sec. 36, T. 11 N., R. 28 E.; Mount Diablo Base and Meridian; latitude 35 degrees 00 minutes 15 seconds north and longitude 118 degrees 58 minutes 20 seconds west; USGS Caliente Mountain, California, Quadrangle, NAD83.

- A1—0 to 5 inches (0 to 13 centimeters); brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; 10 percent 2- to 75-millimeter gravel and 4 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.0); clear smooth boundary.
- A2—5 to 13 inches (13 to 33 centimeters); brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure parting to weak fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular and interstitial pores; 10 percent 2- to 75-

- millimeter gravel and 4 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.0); gradual wavy boundary.
- Bk—13 to 28 inches (33 to 71 centimeters); brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure parting to weak fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular and interstitial pores; strongly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel and 4 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.0); abrupt wavy boundary.
- 2Btk—28 to 42 inches (71 to 107 centimeters); reddish yellow (7.5YR 6/6) gravelly sandy clay loam, strong brown (7.5YR 4/6) moist; moderate coarse prismatic structure parting to moderate medium prismatic; slightly hard, friable, moderately sticky and moderately plastic; few very fine roots; many very fine and few fine tubular pores; many distinct clay films on faces of peds; violently effervescent; carbonates disseminated and segregated as common fine masses and/or threads; 20 percent 2- to 75-millimeter gravel and 5 percent 75- to 250-millimeter cobbles; strongly alkaline (pH 8.0); clear wavy boundary.
- 2Bk1—42 to 58 inches (107 to 147 centimeters); reddish yellow (7.5YR 7/6) extremely stony sandy loam, strong brown (7.5YR 5/6) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine tubular pores; violently effervescent; carbonates disseminated and segregated as common medium coatings on rock fragments; 30 percent 2- to 75-millimeter gravel, 10 percent 75- to 250-millimeter cobbles, and 25 percent 250- to 600-millimeter stones; strongly alkaline (pH 8.0); clear wavy boundary.
- 3Bk2—58 to 75 inches (147 to 191 centimeters); pale yellow (2.5Y 8/4) extremely cobbly sand, light yellowish brown (2.5Y 6/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine interstitial pores; violently effervescent; carbonates disseminated and segregated as common medium coatings on rock fragments; 40 percent 2- to 75-millimeter gravel, 40 percent 75- to 250-millimeter cobbles, and 10 percent 250- to 600-millimeter stones; moderately alkaline (pH 8.0).

Range in characteristics

The percentage of the surface covered by rock fragments is as follows: 0 to 25 percent by 2- to 75-millimeter gravel and 0 to 10 percent by 75- to 250-millimeter cobbles consisting of granitoid rock.

A horizons:

- Hue—10YR dry and moist
- Value—5 or 6 dry and 3 or 4 moist
- Chroma—3 or 4 dry and moist
- Texture of the fine-earth fraction—sandy loam or loam
- Content of clay—8 to 18 percent
- Content of organic matter—0.1 to 0.5 percent
- Electrical conductivity—0.1 to 2 decisiemens per meter
- Sodium adsorption ratio—1 to 5
- Reaction—slightly alkaline or moderately alkaline
- Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel and 0 to 10 percent 75- to 250-millimeter cobbles

Bk horizon:

- Hue—10YR dry and moist
- Value—5 or 6 dry and 3 or 4 moist
- Chroma—3 or 4 dry and moist
- Texture of the fine-earth fraction—sandy loam or loam
- Content of clay—10 to 25 percent

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Content of organic matter—0.05 to 0.5 percent
Electrical conductivity—1 to 4 decisiemens per meter
Sodium adsorption ratio—3 to 12
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel and 0 to 10 percent 75- to 250-millimeter cobbles

2Btk horizon:

Hue—10YR or 7.5YR dry and moist
Value—5 to 8 dry and 4 to 6 moist
Chroma—4 to 6 dry and moist
Texture of the fine-earth fraction—sandy loam, sandy clay loam, or loam
Content of clay—18 to 30 percent
Content of organic matter—0.05 to 0.4 percent
Electrical conductivity—1 to 4 decisiemens per meter
Sodium adsorption ratio—3 to 12
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—15 to 30 percent 2- to 75-millimeter gravel and 5 to 10 percent 75- to 250-millimeter cobbles

2Bk and 3Bk horizons:

Hue—10YR, 7.5YR, or 2.5Y dry and moist
Value—5 to 8 dry and 3 to 6 moist
Chroma—3 to 6 dry and moist
Texture of the fine-earth fraction—sand, loamy sand, sandy loam, or loam
Content of clay—2 to 18 percent
Content of organic matter—0.01 to 0.15 percent
Electrical conductivity—1 to 4 decisiemens per meter
Sodium adsorption ratio—3 to 12
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—20 to 50 percent 2- to 75-millimeter gravel, 20 to 50 percent 75- to 250-millimeter cobbles, and 5 to 20 percent 250- to 600-millimeter stones

Dibble Series

The Dibble series consists of moderately deep, well drained soils that formed in residuum weathered from sandstone and shale. These soils are on hillslopes. Slope is 15 to 75 percent. Dibble soils are classified as fine, smectitic, thermic Typic Haploxeralfs.

Typical pedon

In map unit 640, Bitcreek-Dibble-Eaglerest complex, 15 to 50 percent slopes; Kern County, California; about 21 miles (33.8 kilometers) southwest of Taft, in the San Emidio Mountains; 470 feet (143.3 meters) south and 2,280 feet (694.9 meters) west of the northeast corner of sec. 34, T. 10 N., R. 22 W.; San Bernardino Base and Meridian; latitude 34 degrees 54 minutes 53 seconds north and longitude 119 degrees 12 minutes 48 seconds west; USGS Eagle Rest Peak, California, Quadrangle, NAD83.

A—0 to 3 inches (0 to 8 centimeters); brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; strong medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots; many very fine tubular pores; neutral (pH 7.0); 20 percent 2- to 75-millimeter gravel; clear wavy boundary.

- Bt1—3 to 12 inches (8 to 30 centimeters); pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; moderate coarse subangular blocky structure; slightly hard, very friable, very sticky and very plastic; few very fine roots; many very fine tubular pores; 10 percent 2- to 75-millimeter gravel; neutral (pH 7.0); clear wavy boundary.
- Bt2—12 to 22 inches (30 to 56 centimeters); pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; strong medium prismatic structure parting to strong medium angular blocky; hard, very friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; many distinct clay films on faces of peds and along surfaces of pores; 10 percent gravel; neutral (pH 6.6); clear wavy boundary.
- Bt3—22 to 31 inches (56 to 79 centimeters); mixed yellowish brown (10YR 5/4) and brown (10YR 5/3) clay loam, mixed dark yellowish brown (10YR 4/4) and dark brown (10YR 4/3) moist; strong medium angular blocky structure; hard, friable, very sticky and very plastic; few very fine roots; few very fine tubular pores; many prominent clay films on faces of peds and along surfaces of pores; 10 percent 2- to 75-millimeter gravel; neutral (pH 6.7); abrupt wavy boundary.
- Bt4—31 to 38 inches (79 to 97 centimeters); very pale brown (10YR 7/4) very gravelly clay loam, yellowish brown (10YR 5/4) moist; moderate medium angular blocky structure parting to strong fine angular blocky; hard, friable, very sticky and very plastic; few very fine roots; few very fine tubular pores; many prominent clay films on faces of peds and along surfaces of pores; 50 percent 2- to 75-millimeter gravel; neutral (pH 6.7); abrupt wavy boundary.
- Cr—38 to 48 inches (97 to 122 centimeters); moderately cemented shale.

Range in characteristics

The depth to paralithic contact is 20 to 40 inches (51 to 102 centimeters). About 20 to 35 percent of the surface is covered by 2- to 75-millimeter gravel consisting of shale and/or sandstone.

A horizon:

- Hue—10YR dry and moist
- Value—5 or 6 dry and 3 or 4 moist
- Chroma—3 dry and moist
- Texture of the fine-earth fraction—loam or clay loam
- Content of clay—20 to 35 percent
- Content of organic matter—0.75 to 1.5 percent
- Reaction—neutral
- Content of rock fragments—10 to 25 percent 2- to 75-millimeter gravel

Bt horizons:

- Hue—10YR dry and moist
- Value—5 to 7 dry and 4 or 5 moist
- Chroma—3 or 4 dry and moist
- Texture of the fine-earth fraction—clay loam or clay
- Content of clay—28 to 45 percent
- Content of organic matter—0.05 to 0.8 percent
- Reaction—neutral
- Content of rock fragments—5 to 60 percent 2- to 75-millimeter gravel

Eaglerest Series

The Eaglerest series consists of shallow, well drained soils that formed in residuum of weathered shale. These soils are on mountain slopes. Slope is 15 to 50 percent. Eaglerest soils are classified as loamy-skeletal, mixed, superactive, thermic Typic Haploxeralfs.

Typical pedon

In map unit 640, Bitcreek-Dibble-Eaglerest complex, 15 to 50 percent slopes; Kern County, California; in the San Emidio Mountains; in an unsectionalized area about 2,390 feet (728.5 meters) north and 680 feet (207.3 meters) west of the northeast corner of sec. 26, T. 10 N., R. 22 W.; San Bernardino Base and Meridian; latitude 34 degrees 55 minutes 53 seconds north and longitude 119 degrees 11 minutes 24 seconds west; USGS Eagle Rest Peak, California, Quadrangle, NAD83.

A—0 to 2 inches (0 to 5 centimeters); very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure parting to moderate fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; 10 percent 2- to 75-millimeter gravel; neutral (pH 7.2); abrupt wavy boundary.

Bt1—2 to 6 inches (5 to 15 centimeters); very pale brown (10YR 7/3) very gravelly silt loam, brown (10YR 5/3) moist; strong medium angular blocky structure; hard, friable, sticky and plastic; common very fine roots; common very fine tubular pores; slightly effervescent; carbonates disseminated; many distinct discontinuous clay films on faces of peds and along surfaces of pores; 30 percent 2- to 75-millimeter gravel and 10 percent 75- to 250-millimeter cobbles; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bt2—6 to 13 inches (15 to 33 centimeters); very pale brown (10YR 7/3) very gravelly silt loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky and plastic; common very fine roots; few very fine tubular and common very fine interstitial pores; many distinct discontinuous clay films bridging sand grains and along surfaces of pores; slightly effervescent; carbonates disseminated; 30 percent 2- to 75-millimeter gravel and 10 percent 75- to 250-millimeter cobbles; slightly alkaline (pH 7.8); abrupt wavy boundary.

Cr—13 to 23 inches (33 to 58 centimeters); moderately cemented, highly fractured shale.

Range in characteristics

The depth to paralithic contact is 10 to 20 inches (25 to 51 centimeters). About 0 to 20 percent of the surface is covered by 2- to 75-millimeter shale fragments.

A horizon:

Hue—10YR dry and moist

Value—7 dry and 5 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—loam

Content of clay—15 to 20 percent

Content of organic matter—0.75 to 1.5 percent

Reaction—neutral

Content of rock fragments—5 to 15 percent 2- to 75-millimeter gravel

Bt horizons:

Hue—10YR dry and moist

Value—7 dry and 5 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—clay loam or silt loam

Content of clay—20 to 30 percent

Content of organic matter—0.1 to 1.0 percent

Reaction—slightly alkaline or moderately alkaline

Content of rock fragments—15 to 40 percent 2- to 75-millimeter gravel and 5 to 15 percent 75- to 250-millimeter cobbles

Elkhills Series

The Elkhills series consists of very deep, well drained soils that formed in alluvium weathered from sedimentary and/or granitoid rocks. These soils are on hillslopes. Slope is 5 to 60 percent. Elkhills soils are classified as coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents.

Typical pedon

In map unit 444, Elkhills sandy loam, 15 to 30 percent slopes; Kern County, California; about 4 miles (6.4 kilometers) northeast of Taft; 1,000 feet (304.8 meters) north and 1,400 feet (426.7 meters) east of the southwest corner of sec. 4, T. 32 S., R. 24 E.; Mount Diablo Base and Meridian; latitude 35 degrees 10 minutes 10 seconds north and longitude 119 degrees 24 minutes 23 seconds west; USGS Taft, California, Quadrangle, NAD83.

- A1—0 to 4 inches (0 to 10 centimeters); pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; moderate very coarse angular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; few very fine tubular and interstitial pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt wavy boundary.
- A2—4 to 10 inches (10 to 25 centimeters); pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; moderate coarse angular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine roots; common very fine interstitial pores; strongly effervescent; carbonates disseminated; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); clear wavy boundary.
- C1—10 to 27 inches (25 to 69 centimeters); light yellowish brown (10YR 6/4) sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine roots; common very fine interstitial pores; strongly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); abrupt smooth boundary.
- C2—27 to 34 inches (69 to 86 centimeters); light yellowish brown (10YR 6/4) sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine roots; common very fine interstitial and few very fine tubular pores; violently effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); abrupt smooth boundary.
- C3—34 to 52 inches (86 to 132 centimeters); light yellowish brown (10YR 6/4) coarse sandy loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, slightly sticky and nonplastic; few very fine tubular and common very fine interstitial pores; violently effervescent; carbonates disseminated and segregated as few fine threads; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); gradual wavy boundary.
- C4—52 to 65 inches (132 to 165 centimeters); very pale brown (10YR 7/4) coarse sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, slightly sticky and nonplastic; common very fine tubular and few very fine interstitial pores; violently effervescent; carbonates disseminated and segregated as few fine threads; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2)

Range in characteristics

A horizons:

- Hue—10YR dry and moist
Value—5 to 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist

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Texture of the fine-earth fraction—loamy coarse sand, sandy loam, or fine sandy loam

Content of clay—7 to 18 percent

Content of organic matter—0.5 to 1.75 percent

Electrical conductivity—0.5 to 4 decisiemens per meter

Sodium adsorption ratio—2 to 6

Calcium carbonate equivalent—1 to 3 percent

Reaction—moderately alkaline

Content of rock fragments—0 to 14 percent 2- to 75-millimeter gravel

C horizons:

Hue—10YR dry and moist

Value—6 to 8 dry and 4 to 6 moist

Chroma—2 to 6 dry and moist

Texture of the fine-earth fraction—loamy sand, coarse sandy loam, sandy loam, fine sandy loam, or loam

Content of clay—3 to 18 percent

Content of organic matter—0.1 to 0.75 percent

Electrical conductivity—0.5 to 4 decisiemens per meter

Sodium adsorption ratio—2 to 6

Calcium carbonate equivalent—1 to 4 percent

Reaction—moderately alkaline

Content of rock fragments—0 to 40 percent 2- to 75-millimeter gravel

Emidio Series

The Emidio series consists of very deep, well drained soils that formed in uplifted alluvium and/or colluvium derived from unconsolidated mixed rock sources. These soils are on benches on hillslopes. Slope is 15 to 30 percent. Emidio soils are classified as fine-loamy, mixed, superactive, thermic Calcic Pachic Haploxerolls.

Typical pedon

In map unit 395, Pleito-Emidio-Loslobos association, 15 to 75 percent slopes; Kern County, California; about 24 miles (38.6 kilometers) southeast of Taft; 2,580 feet (786.4 meters) west and 460 feet (140.2 meters) south of the northeast corner of sec. 12, T. 10 N., R. 21 W.; San Bernardino Base and Meridian; latitude 34 degrees 58 minutes 30 seconds north and longitude 119 degrees 04 minutes 24 seconds west; USGS Pleito Hills, California, Quadrangle, NAD83.

A1—0 to 4 inches (0 to 10 centimeters); very dark grayish brown (10YR 3/2) loam, black (10YR 2/1) moist; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and plastic; common very fine roots; common very fine and few fine tubular pores; moderately acid (pH 5.9); clear smooth boundary.

A2—4 to 16 inches (10 to 41 centimeters); very dark gray (10YR 3/1) loam, black (10YR 2/1) moist; weak coarse subangular blocky structure; slightly hard, friable, sticky and plastic; common very fine roots; many very fine, common fine and medium, and few coarse tubular pores; neutral (pH 6.6); clear smooth boundary.

Bw1—16 to 32 inches (41 to 81 centimeters); very dark gray (10YR 3/1) sandy clay loam, black (10YR 2/1) moist; moderate medium prismatic structure; hard, firm, sticky and plastic; common very fine roots; common very fine and few fine, medium, and coarse tubular pores; slightly alkaline (pH 7.6); clear smooth boundary.

Bw2—32 to 41 inches (81 to 104 centimeters); dark gray (10YR 4/1) clay loam, black (10YR 2/1) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; few very fine roots; many very fine, common fine, and

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few medium and coarse tubular pores; moderately alkaline (pH 8.0); clear wavy boundary.

Bky1—41 to 49 inches (104 to 124 centimeters); dark gray (10YR 4/1) and grayish brown (10YR 5/2) loam, black (10YR 2/1) and very dark grayish brown (10YR 3/2) moist; weak coarse subangular blocky structure; hard, friable, sticky and plastic; few very fine roots; many very fine and few fine tubular pores; calcium carbonate equivalent of 5 percent; gypsum content of 20 percent; many fine, medium, and coarse masses and threads of gypsum; strongly effervescent; carbonates disseminated and segregated as common fine, medium, and coarse soft masses encircling many gypsum masses; moderately alkaline (pH 8.2); clear wavy boundary.

Bky2—49 to 65 inches (124 to 165 centimeters); light brownish gray (10YR 6/2) and pale brown (10YR 6/3) loam, dark grayish brown (10YR 4/2) and brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; calcium carbonate equivalent of 5 percent; gypsum content of 20 percent; many fine, medium, and coarse masses and threads of gypsum; violently effervescent; carbonates disseminated and segregated as common fine, medium, and coarse soft masses encircling many gypsum masses; moderately alkaline (pH 8.0).

Range in characteristics

The percentage of the surface covered by rock fragments is as follows: 5 to 15 percent by 2- to 75-millimeter gravel and 0 to 5 percent by 75- to 250-millimeter cobbles consisting of mixed sedimentary rock.

A horizons:

Hue—10YR dry and moist

Value—3 or 4 dry and 2 moist

Chroma—1 or 2 dry and moist

Texture of the fine-earth fraction—loam

Content of clay—15 to 24 percent

Content of organic matter—1.5 to 5 percent

Reaction—moderately acid to neutral

Content of rock fragments—0 to 8 percent 2- to 75-millimeter gravel and 0 to 2 percent 75- to 250-millimeter cobbles

Bw horizons:

Hue—10YR dry and moist

Value—3 to 5 dry and 2 or 3 moist

Chroma—1 or 2 dry and moist

Texture of the fine-earth fraction—loam, sandy clay loam, or clay loam

Content of clay—18 to 35 percent

Content of organic matter—1 to 3 percent

Calcium carbonate equivalent—0 to 2 percent

Content of gypsum—0 to 5 percent

Reaction—slightly alkaline or moderately alkaline

Content of rock fragments—0 to 8 percent 2- to 75-millimeter gravel and 0 to 2 percent 75- to 250-millimeter cobbles

Bky horizons:

Hue—10YR dry and moist

Value—4 to 6 dry and 2 to 4 moist

Chroma—1 to 3 dry and moist

Texture of the fine-earth fraction—loam, sandy clay loam, or clay loam

Content of clay—12 to 28 percent

Content of organic matter—0.5 to 2 percent

Calcium carbonate equivalent—5 to 10 percent
Content of gypsum—10 to 30 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 8 percent 2- to 75-millimeter gravel and 0 to 2 percent 75- to 250-millimeter cobbles

Excelsior Series

The Excelsior series consists of very deep, well drained soils that formed in alluvium derived from sedimentary rock. These soils are on alluvial fans and fan skirts. Slope is 0 to 2 percent. Excelsior soils are classified as coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents.

Typical pedon

In map unit 150, Excelsior sandy loam, 0 to 2 percent slopes; Kern County, California; about 2.5 miles (4.0 kilometers) north-northeast of the Los Lobos Oil Fields; 200 feet (61.0 meters) south and 740 feet (225.6 meters) west of the northeast corner of sec. 34, T. 12 N., R. 26 E.; Mount Diablo Base and Meridian; latitude 35 degrees 05 minutes 27 seconds north and longitude 119 degrees 12 minutes 36 seconds west; USGS Conner SW, California, Quadrangle, NAD83.

- Ap1—0 to 8 inches (0 to 20 centimeters); light brownish gray (2.5Y 6/2) sandy loam, olive brown (2.5Y 4/4) moist; weak very fine and fine cloddy structure; slightly hard, very friable, nonsticky and slightly plastic; few very fine, fine, and coarse roots; many very fine interstitial pores; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.3); abrupt smooth boundary.
- Ap2—8 to 19 inches (20 to 48 centimeters); light brownish gray (2.5Y 6/2) fine sandy loam, dark grayish brown (2.5Y 4/2) moist; weak very fine and fine cloddy structure; hard, friable, slightly sticky and slightly plastic; few very fine, fine, and coarse roots; few very fine interstitial and tubular pores; slightly effervescent; carbonates disseminated; strongly alkaline (pH 8.5); abrupt smooth boundary.
- C1—19 to 25 inches (48 to 64 centimeters); light brownish gray (2.5Y 6/2) sandy loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, very friable, nonsticky and slightly plastic; few very fine and fine roots; many very fine interstitial and few very fine tubular pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.3); abrupt smooth boundary.
- C2—25 to 36 inches (64 to 91 centimeters); light brownish gray (2.5Y 6/2) and pale brown (10YR 6/3), stratified loamy fine sand to silt loam, olive brown (2.5Y 4/4) and brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine interstitial and few very fine tubular pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.1); abrupt smooth boundary.
- C3—36 to 41 inches (91 to 104 centimeters); pale yellow (2.5Y 7/4) fine sandy loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine interstitial and few very fine tubular pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.
- C4—41 to 48 inches (104 to 122 centimeters); light brownish gray (2.5Y 6/2), stratified loamy sand to silt loam, dark grayish brown (2.5Y 4/2) and olive brown (2.5Y 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt wavy boundary.
- C5—48 to 62 inches (122 to 157 centimeters); light yellowish brown (2.5Y 6/4) silt loam, olive brown (2.5Y 4/4), olive (5Y 4/4), and yellowish brown (10YR 5/4) moist; massive; hard, friable, slightly sticky and plastic; common very fine interstitial and

few very fine tubular pores; violently effervescent; carbonates disseminated; few fine prominent yellowish brown (10YR 5/8) redoximorphic features; moderately alkaline (pH 8.1).

Range in characteristics

A horizons:

Hue—2.5Y dry and 10YR or 2.5Y moist
Value—5 or 6 dry and 3 or 4 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam, fine sandy loam, or loam
Content of clay—5 to 18 percent
Content of organic matter—0.2 to 1 percent
Electrical conductivity—1 to 4 decisiemens per meter
Sodium adsorption ratio—1 to 10
Calcium carbonate equivalent—1 to 4 percent
Reaction—slightly alkaline to strongly alkaline

C horizons:

Hue—10YR, 2.5Y, or 5Y dry and moist
Value—6 or 7 dry and 3 to 5 moist
Chroma—2 to 6 dry and moist
Texture of the fine-earth fraction—stratified loamy sand to silt loam
Content of clay—3 to 18 percent
Content of organic matter—0.1 to 1.5 percent
Electrical conductivity—1 to 16 decisiemens per meter
Sodium adsorption ratio—1 to 20
Calcium carbonate equivalent—1 to 4 percent
Reaction—slightly alkaline to strongly alkaline

Fages Series

The Fages series consists of very deep, moderately well drained soils that formed in lacustrine deposits over alluvium derived from rocks of mixed mineralogy. These soils are on the rims of basin floors. Slope is 0 to 1 percent. Fages soils are classified as fine, smectitic, thermic Sodic Haplocambids.

Typical pedon

In map unit 160, Fages clay, 0 to 1 percent slopes; Kern County, California; about 19 miles (30.6 kilometers) southwest of downtown Bakersfield; 1,190 feet (362.7 meters) south and 1,590 feet (484.6 meters) west of the northeast corner of sec. 17, T. 32 S., R. 25 E.; Mount Diablo Base and Meridian; latitude 35 degrees 08 minutes 56 seconds north and longitude 119 degrees 18 minutes 38 seconds west; USGS Mouth of Kern, California, Quadrangle, NAD83.

Ap—0 to 7 inches (0 to 18 centimeters); pale brown (10YR 6/3) clay, brown (10YR 4/3) moist; moderate fine, medium, and coarse subangular blocky structure; very hard, firm, very sticky and very plastic; few very fine roots; many very fine and fine interstitial pores; electrical conductivity of 13 decisiemens per meter; sodium adsorption ratio of 30; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.1); abrupt smooth boundary.

Btnz—7 to 22 inches (18 to 56 centimeters); light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 4/4) moist; strong very coarse prismatic structure parting to strong very coarse and coarse angular blocky; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine tubular pores; common faint grayish brown (10YR 5/2) clay films on faces of peds and along surfaces

- of pores, dark brown (10YR 3/3) moist; electrical conductivity of 19 decisiemens per meter; sodium adsorption ratio of 63; very slightly effervescent; carbonates disseminated; strongly alkaline (pH 8.5); clear smooth boundary.
- Bnyz—22 to 30 inches (56 to 76 centimeters); light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 4/4) moist; strong coarse prismatic structure parting to weak coarse angular blocky; very hard, very firm, very sticky and very plastic; few very fine tubular pores; electrical conductivity of 23 decisiemens per meter; sodium adsorption ratio of 67; noneffervescent; few fine and medium soft masses of gypsum; strongly alkaline (pH 8.5); clear smooth boundary.
- Bnz—30 to 48 inches (76 to 122 centimeters); pale brown (10YR 6/3) clay, brown (10YR 4/3) moist; weak coarse angular blocky structure; very hard, friable, sticky and very plastic; many very fine and few fine tubular pores; electrical conductivity of 30 decisiemens per meter; sodium adsorption ratio of 77; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.4); clear smooth boundary.
- 2Bnyz1—48 to 56 inches (122 to 142 centimeters); pale brown (10YR 6/3) silty clay, brown (10YR 4/3) moist; weak very coarse angular blocky structure; very hard, friable, sticky and plastic; no roots; many very fine and common fine tubular pores; electrical conductivity of 53 decisiemens per meter; sodium adsorption ratio of 108; slightly effervescent; carbonates disseminated; few fine and medium threads and few soft masses of gypsum; moderately alkaline (pH 8.3); abrupt smooth boundary.
- 2Bnyz2—56 to 58 inches (142 to 147 centimeters); dark gray (10YR 4/1) and pale brown (10YR 6/3) loam, black (10YR 2/1) and dark brown (10YR 4/3) moist; weak platy rock structure; hard, friable, slightly sticky and plastic; common very fine tubular pores; electrical conductivity of 64 decisiemens per meter; sodium adsorption ratio of 114; violently effervescent; carbonates disseminated; common clam shells; few fine soft masses of gypsum; moderately alkaline (pH 8.2); abrupt smooth boundary.
- 3Bnyz3—58 to 65 inches (147 to 165 centimeters); pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; massive; very hard, friable, sticky and plastic; many very fine and few fine tubular pores; electrical conductivity of 56 decisiemens per meter; sodium adsorption ratio of 108; slightly effervescent; carbonates disseminated; few fine and medium threads and few fine and medium soft masses of gypsum; moderately alkaline (pH 8.3).

Range in characteristics

When the soils are dry, vertical cracks 1 to 8 millimeters wide extend from the base of the Ap horizon to a depth of 12 to 18 inches. In some pedons the 2Bnyz horizons are stratified.

Ap horizon:

- Hue—10YR or 2.5Y dry and moist
- Value—6 dry and 3 or 4 moist
- Chroma—2 to 4 dry and moist
- Texture of the fine-earth fraction—silty clay or clay
- Content of clay—40 to 55 percent
- Content of organic matter—0.5 to 1.25 percent
- Electrical conductivity—5 to 30 decisiemens per meter
- Sodium adsorption ratio—5 to 50
- Reaction—slightly alkaline to strongly alkaline

Btnz horizon:

- Hue—10YR or 2.5Y dry and moist
- Value—6 dry and 4 moist
- Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—silty clay or clay
Content of clay—40 to 55 percent
Content of organic matter—0.5 to 1.25 percent
Electrical conductivity—5 to 30 decisiemens per meter
Sodium adsorption ratio—20 to 80
Reaction—slightly alkaline to strongly alkaline

Bnyz and Bnz horizons:

Hue—10YR or 2.5Y dry and moist
Value—6 dry and 4 or 5 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—silty clay or clay
Content of clay—40 to 55 percent
Content of organic matter—0.2 to 0.6 percent
Electrical conductivity—5 to 30 decisiemens per meter
Sodium adsorption ratio—20 to 80
Reaction—slightly alkaline to strongly alkaline

2Bnyz and 3Bnyz horizons:

Hue—10YR or 2.5Y dry and moist
Value—4 to 6 dry and 2 to 4 moist
Chroma—1 to 4 dry and moist
Texture of the fine-earth fraction—loam, clay loam, silty clay loam, silty clay, or clay
Content of clay—8 to 55 percent
Content of organic matter—0.2 to 0.6 percent
Electrical conductivity—5 to 30 decisiemens per meter
Sodium adsorption ratio—20 to 120
Reaction—slightly alkaline to strongly alkaline

Frazier Series

The Frazier series consists of moderately deep, well drained soils that formed in colluvium derived from granite. These soils are on mountain slopes. Slope is 50 to 75 percent. Frazier soils are classified as loamy-skeletal, mixed, superactive, mesic Typic Haploxerepts.

Typical pedon

In map unit 870, Frazier very gravelly sandy loam, 50 to 75 percent slopes; Kern County, California; about 45 miles (72.4 kilometers) south of downtown Bakersfield; 1,350 feet (411.5 meters) south and 700 feet (213.4 meters) west of the northeast corner of sec. 28, T. 9 N., R. 19 W.; San Bernardino Base and Meridian; latitude 34 degrees 50 minutes 18 seconds north and longitude 118 degrees 53 minutes 48 seconds west; USGS Frazier Mountain, California, Quadrangle, NAD83.

- A—0 to 4 inches (0 to 10 centimeters); yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak coarse and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few medium and fine roots; many very fine interstitial pores; 40 percent 2- to 75-millimeter gravel; slightly acid (pH 6.5); clear smooth boundary.
- Bt—4 to 12 inches (10 to 30 centimeters); yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; moderate medium and fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common medium and fine roots; common very fine tubular and very fine interstitial pores; common faint clay films on faces of peds and along surfaces of pores; 70 percent 2- to 75-millimeter gravel; slightly acid (pH 6.5); abrupt wavy boundary.

C—12 to 23 inches (30 to 58 centimeters); very pale brown (10YR 7/4) extremely gravelly loamy sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; common medium, fine, and very fine and few coarse roots; common very fine interstitial pores; 70 percent 2- to 75-millimeter gravel; slightly acid (pH 6.5); abrupt wavy boundary.

R—23 to 33 inches (58 to 84 centimeters); very strongly cemented, slightly fractured granite.

Range in characteristics

The depth to lithic contact is 20 to 40 inches (51 to 102 centimeters). About 0 to 75 percent of the surface is covered by 2- to 75-millimeter gravel consisting of granite.

A horizon:

Hue—10YR dry and moist

Value—5 or 6 dry and 3 or 4 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—sandy loam

Content of clay—8 to 18 percent

Content of organic matter—0.1 to 1.75 percent

Reaction—slightly acid or neutral

Content of rock fragments—15 to 55 percent 2- to 75-millimeter gravel

Bt horizon:

Hue—10YR dry and moist

Value—5 or 6 dry and 3 or 4 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—sandy loam

Content of clay—8 to 18 percent

Content of organic matter—0.2 to 0.75 percent

Reaction—slightly acid or neutral

Content of rock fragments—35 to 80 percent 2- to 75-millimeter gravel

C horizon:

Hue—10YR dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—4 dry and moist

Texture of the fine-earth fraction—sandy loam

Content of clay—8 to 18 percent

Content of organic matter—0.1 to 0.3 percent

Reaction—slightly acid or neutral

Content of rock fragments—35 to 80 percent 2- to 75-millimeter gravel

Friant Series

The Friant series consists of shallow or very shallow, well drained soils that formed in residuum derived from schist. These soils are on mountain slopes. Slope is 30 to 60 percent. Friant soils are classified as loamy, mixed, superactive, thermic Lithic Haploxerolls.

Typical pedon

In map unit 720, Friant-Geghus-Lithic Xerorthents complex, 30 to 60 percent slopes; Kern County, California; about 13 miles (20.9 kilometers) south-southeast of Maricopa, in the San Emidio Mountains; 1,300 feet (396.2 meters) north and 2,400 feet (731.5 meters) east of the southwest corner of sec. 24, T. 10 N., R. 23 W.; San Bernardino Base and Meridian; latitude 34 degrees 56 minutes 01 second north and longitude 119

degrees 17 minutes 12 seconds west; USGS Santiago Creek, California, Quadrangle, NAD83.

A—0 to 1 inch (0 to 3 centimeters); grayish brown (10YR 5/2) very gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine interstitial pores; 40 percent 2- to 10-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.

Bw—1 to 8 inches (3 to 20 centimeters); grayish brown (10YR 5/2) gravelly loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine interstitial and common very fine tubular pores; 30 percent 2- to 10-millimeter gravel; neutral (pH 7.0); abrupt irregular boundary.

R—8 to 18 inches (20 to 46 centimeters); very strongly cemented schist.

Range in characteristics

The depth to bedrock is 4 to 20 inches (10 to 51 centimeters). About 40 to 60 percent of the surface is covered by 2- to 10-millimeter gravel consisting of schist fragments.

A horizon:

Hue—10YR dry and moist

Value—4 or 5 dry and 3 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—sandy loam

Content of clay—10 to 18 percent

Content of organic matter—1.0 to 3.0 percent

Reaction—neutral

Content of rock fragments—30 to 50 percent 2- to 10-millimeter gravel

Bw horizon:

Hue—10YR dry and moist

Value—4 or 5 dry and 3 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—sandy loam or loam

Content of clay—15 to 25 percent

Content of organic matter—1.0 to 1.5 percent

Reaction—neutral

Content of rock fragments—20 to 50 percent 2- to 10-millimeter gravel

Garces Series

The Garces series consists of very deep, well drained, saline-sodic soils that formed in alluvium derived from granitoid rock. These soils are on nonburied fan remnants. Slope is 0 to 1 percent. Garces soils are classified as fine-loamy, mixed, superactive, thermic Typic Natrargids.

Typical pedon

In map unit 180, Garces loam, 0 to 1 percent slopes; Kern County, California; about 10 miles (16.1 kilometers) south of downtown Bakersfield; about 1.1 miles (1.8 kilometers) west of Adobe Road and 300 feet (91.4 meters) north of Bear Mountain Boulevard; 300 feet (91.4 meters) north and 100 feet (30.5 meters) east of the southwest corner of sec. 23, T. 31 S., R. 28 E.; Mount Diablo Base and Meridian; latitude 35 degrees 12 minutes 35 seconds north and longitude 118 degrees 56 minutes 59 seconds west; USGS Weed Patch, California, Quadrangle, NAD83.

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- Ap—0 to 7 inches (0 to 18 centimeters); pale brown (10YR 6/3) loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine, few fine, and few medium tubular pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.4); clear smooth boundary.
- BA—7 to 14 inches (18 to 36 centimeters); pale brown (10YR 6/3) clay loam, dark yellowish brown (10YR 3/4) moist; strong very coarse prismatic structure parting to strong coarse and medium subangular blocky; very hard, firm, moderately sticky and moderately plastic; common very fine roots; common very fine and few coarse tubular pores; few thin clay films lining pores; strongly effervescent; carbonates disseminated; strongly alkaline (pH 9.0); clear smooth boundary.
- Btkn1—14 to 24 inches (36 to 61 centimeters); light yellowish brown (10YR 6/4) clay loam, yellowish brown (10YR 5/4) moist; weak very coarse prismatic structure parting to strong medium and fine subangular blocky; hard, firm, moderately sticky and moderately plastic; few very fine roots; common very fine and fine and few medium tubular pores; few thin, few moderately thick, and very few thick clay films on faces of peds and lining pores; strongly effervescent; carbonates disseminated and segregated as common fine and common medium soft masses; very strongly alkaline (pH 9.4); abrupt smooth boundary.
- 2Btkn2—24 to 37 inches (61 to 94 centimeters); light yellowish brown (10YR 6/4) loam, dark yellowish brown (10YR 4/6) moist; weak fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; few very fine roots; many very fine, few fine, and common medium tubular pores; strongly effervescent; carbonates disseminated and segregated as common fine threads, soft masses, and concretions; very strongly alkaline (pH 9.4); gradual smooth boundary.
- 2Ckn—37 to 55 inches (94 to 140 centimeters); yellowish brown (10YR 5/4) fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and moderately plastic; common very fine roots; many very fine and few fine tubular pores; strongly effervescent; carbonates disseminated and segregated as few fine threads; strongly alkaline (pH 8.8); gradual wavy boundary.
- 2Cn—55 to 64 inches (140 to 163 centimeters); light yellowish brown (10YR 6/4) fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and moderately plastic; common very fine roots; many very fine and few fine tubular pores; strongly effervescent; carbonates disseminated; strongly alkaline (pH 8.9).

Range in characteristics

Ap horizon:

- Hue—10YR dry and moist
- Value—5 or 6 dry and 3 moist
- Chroma—3 dry and 3 or 4 moist
- Texture of the fine-earth fraction—sandy loam or loam
- Content of clay—15 to 27 percent
- Content of organic matter—0.75 to 1.25 percent
- Electrical conductivity—2 to 8 decisiemens per meter
- Sodium adsorption ratio—1 to 25
- Calcium carbonate equivalent—1 to 4 percent
- Reaction—moderately alkaline or strongly alkaline

BA, Btkn, and 2Btkn horizons:

- Hue—10YR dry and moist
- Value—6 dry and 3 to 5 moist
- Chroma—2 to 4 dry and 3 to 6 moist
- Texture of the fine-earth fraction—loam, sandy clay loam, or clay loam

Content of clay—15 to 35 percent
Content of organic matter—0.2 to 1 percent
Electrical conductivity—2 to 16 decisiemens per meter
Sodium adsorption ratio—1 to 50
Calcium carbonate equivalent—1 to 4 percent
Reaction—moderately alkaline to very strongly alkaline

2Ckn and 2Cn horizons:

Hue—10YR dry and moist
Value—5 or 6 dry and 4 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam, fine sandy loam, or loam
Content of clay—10 to 20 percent
Content of organic matter—0.05 to 0.3 percent
Electrical conductivity—4 to 16 decisiemens per meter
Sodium adsorption ratio—13 to 50
Calcium carbonate equivalent—1 to 4 percent
Reaction—moderately alkaline to very strongly alkaline

Geghus Series

The Geghus series consists of very deep, well drained soils that formed in residuum derived from calcareous shale, sandstone, and/or conglomerate. These soils are on hillslopes and mountain slopes. Slope is 9 to 75 percent. Geghus soils are classified as fine-loamy, mixed, superactive, thermic Typic Argixerolls.

Typical pedon

In map unit 460, Geghus-Tecuya association, 9 to 30 percent slopes; Kern County, California; about 0.7 mile (1.1 kilometers) west of the Grapevine truck stop; 250 feet (76.2 meters) north and 700 feet (213.4 meters) west of the southeast corner of projected sec. 19, T. 10 N., R. 19 W.; San Bernardino Base and Meridian; latitude 34 degrees 55 minutes 57 seconds north and longitude 118 degrees 57 minutes 07 seconds west; USGS Grapevine, California, Quadrangle, NAD83.

A—0 to 2 inches (0 to 5 centimeters); brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate thick platy structure parting to moderate medium platy; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores; slightly alkaline (pH 7.5); abrupt smooth boundary.

Bt1—2 to 6 inches (5 to 15 centimeters); brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; strong coarse angular blocky structure parting to strong medium angular blocky; hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; few faint clay films on faces of peds and along surfaces of pores; 3 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear wavy boundary.

Bt2—6 to 15 inches (15 to 38 centimeters); brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate medium prismatic structure; slightly hard, very friable, slightly sticky and plastic; common very fine roots; common very fine tubular pores; common faint clay films on faces of peds and along surfaces of pores; slightly effervescent; carbonates disseminated; 3 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear irregular boundary.

Btk1—15 to 29 inches (38 to 74 centimeters); brown (10YR 5/3) clay loam, yellowish brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and plastic; few very fine roots; common very fine, few fine, and few medium tubular pores; common distinct clay films on faces of peds and along surfaces of pores; strongly effervescent; carbonates disseminated

and segregated as many fine threads; moderately alkaline; 3 percent 2- to 75-millimeter gravel (pH 8.0); clear wavy boundary.

Btk2—29 to 44 inches (74 to 112 centimeters); pink (7.5YR 7/4) clay loam, brown (7.5YR 5/4) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky and plastic; few very fine roots; common very fine, few fine, and few medium tubular pores; many distinct clay films on faces of peds and along surfaces of pores; strongly effervescent; carbonates disseminated and segregated as common fine threads and coatings along surfaces of pores; 3 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear wavy boundary.

Btk3—44 to 54 inches (112 to 137 centimeters); pink (7.5YR 7/4) clay loam, brown (7.5YR 5/4) moist; massive; slightly hard, very friable, slightly sticky and plastic; few very fine roots; common very fine, few fine, and few medium tubular pores; common distinct clay films bridging sand grains and along surfaces of pores; strongly effervescent; carbonates disseminated and segregated as common fine threads and coatings along surfaces of pores; 3 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); abrupt wavy boundary.

Btk4—54 to 62 inches (137 to 157 centimeters); pink (7.5YR 7/4) loam, brown (7.5YR 5/4) moist; massive; slightly hard, very friable, slightly sticky and plastic; few very fine roots; common very fine tubular pores; common faint clay films bridging sand grains and along surfaces of pores; strongly effervescent; carbonates disseminated and segregated as few fine threads; moderately alkaline (pH 8.0).

Range in characteristics

About 0 to 5 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sandstone.

A horizon:

Hue—10YR dry and moist

Value—5 or 6 dry and 3 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—sandy loam, loam, or silt loam

Content of clay—12 to 25 percent

Content of organic matter—2 to 4 percent

Reaction—slightly alkaline or moderately alkaline

Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel and 0 to 10 percent 75- to 250-millimeter cobbles

Bt horizons:

Hue—10YR dry and moist

Value—5 to 7 dry and 3 to 5 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—sandy loam, loam, or silt loam

Content of clay—12 to 40 percent

Content of organic matter—1.0 to 3 percent

Reaction—slightly alkaline or moderately alkaline

Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel and 0 to 10 percent 75- to 250-millimeter cobbles

Btk horizons:

Hue—10YR or 7.5YR dry and moist

Value—5 to 7 dry and 3 to 5 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—sandy loam, loam, or silt loam

Content of clay—20 to 40 percent

Content of organic matter—0.1 to 1 percent

Reaction—slightly alkaline or moderately alkaline

Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel and 0 to 10 percent 75- to 250-millimeter cobbles

Gorman Series

The Gorman series consists of very deep, well drained soils that formed in colluvium derived from granitoid rock. These soils are on mountain slopes. Slope is 15 to 50 percent. Gorman soils are classified as fine-loamy, mixed, superactive, mesic Pachic Argixerolls.

Typical pedon

In map unit 590, Gorman-Typic Xerorthents, mesic-Xerorthents, shallow, complex, 30 to 100 percent slopes; Kern County, California; about 1,750 feet (533.4 meters) southeast of the Lebec Oaks Ranch; about 1,860 feet (566.9 meters) north and 1,720 feet (524.3 meters) west of the southeast corner of sec. 28, T. 9 N., R. 19 W.; San Bernardino Base and Meridian; latitude 34 degrees 50 minutes 15 seconds north and longitude 118 degrees 53 minutes 42 seconds west; USGS Frazier Mountain, California, Quadrangle, NAD83.

- A—0 to 7 inches (0 to 18 centimeters); brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; moderate very coarse subangular blocky structure parting to moderate coarse subangular blocky; hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine tubular and common very fine interstitial pores; 10 percent 2- to 75-millimeter gravel; slightly acid (pH 6.5); abrupt smooth boundary.
- Bt1—7 to 15 inches (18 to 38 centimeters); brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; moderate very coarse subangular blocky structure parting to moderate coarse subangular blocky; hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine tubular and common very fine interstitial pores; 10 percent 2- to 75-millimeter gravel; slightly acid (pH 6.5); clear smooth boundary.
- Bt2—15 to 23 inches (38 to 58 centimeters); brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; strong coarse subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular and interstitial pores; 5 percent 2- to 75-millimeter gravel; slightly acid (pH 6.5); clear smooth boundary.
- Bt3—23 to 37 inches (58 to 94 centimeters); light yellowish brown (10YR 6/4) sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate very coarse subangular blocky structure parting to moderate coarse subangular blocky; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular and interstitial pores; 5 percent 2- to 75-millimeter gravel; slightly acid (pH 6.5); abrupt smooth boundary.
- Bt4—37 to 48 inches (94 to 122 centimeters); light yellowish brown (10YR 6/4) sandy clay loam, yellowish brown (10YR 5/6) moist; massive; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular and interstitial pores; 10 percent 2- to 75-millimeter gravel; neutral (pH 7.0); clear smooth boundary.
- Bt5—48 to 60 inches (122 to 152 centimeters); yellow (10YR 7/6) clay loam, brownish yellow (10YR 6/6) moist; massive; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular and interstitial pores; 10 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.5).

Range in characteristics

About 10 to 20 percent of the surface is covered by 2- to 75-millimeter gravel consisting of granitoid rock.

A horizon:

Hue—10YR dry and moist
Value—4 or 5 dry and 2 or 3 moist
Chroma—1 to 3 dry and moist
Texture of the fine-earth fraction—sandy loam
Content of clay—10 to 20 percent
Content of organic matter—2 to 4 percent
Reaction—slightly acid to slightly alkaline
Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel

Bt horizons:

Hue—10YR dry and moist
Value—5 to 7 dry and 3 to 6 moist
Chroma—3 to 6 dry and moist
Texture of the fine-earth fraction—sandy loam, sandy clay loam, loam, or clay loam
Content of clay—10 to 35 percent
Content of organic matter—0.1 to 3 percent
Reaction—slightly acid to slightly alkaline
Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel

Granoso Series

The Granoso series consists of very deep, somewhat excessively drained soils that formed in alluvium derived from rocks of mixed mineralogy. These soils are on alluvial fans and flood plains. Slope is 0 to 5 percent. Granoso soils are classified as mixed, thermic Typic Torripsamments.

Typical pedon

In map unit 120, Granoso loamy sand, 0 to 2 percent slopes; Kern County, California; about 0.7 mile (11.3 kilometers) east of Weed Patch Highway and 500 feet (152.4 meters) south of Panama Road, near Lamont, California; about 570 feet (173.7 meters) south and 1,760 feet (536.5 meters) west of the northeast corner of sec. 6, T. 31 S., R. 29 E.; Mount Diablo Base and Meridian; latitude 35 degrees 15 minutes 56 seconds north and longitude 118 degrees 54 minutes 08 seconds west; USGS Lamont, California, Quadrangle, NAD83.

- Ap—0 to 10 inches (0 to 25 centimeters); brown (10YR 5/3) loamy sand, dark brown (10YR 3/3) moist; moderate very coarse subangular blocky structure parting to moderate coarse subangular blocky; soft, friable, nonsticky and nonplastic; common very fine roots; few very fine and fine tubular pores; moderately alkaline (pH 8.0); clear smooth boundary.
- C1—10 to 20 inches (25 to 51 centimeters); brown (10YR 5/3) loamy sand, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine roots; few very fine tubular and few very fine interstitial pores; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); clear smooth boundary.
- C2—20 to 36 inches (51 to 91 centimeters); pale brown (10YR 6/3) sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine interstitial and few very fine tubular pores; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.4); clear wavy boundary.
- C3—36 to 62 inches (91 to 157 centimeters); very pale brown (10YR 7/3) sand, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine interstitial pores; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.4).

Range in characteristics

About 0 to 50 percent of the surface is covered by 2- to 75-millimeter gravel of mixed mineralogy. In some pedons strata of gravelly coarse sand to silt loam occur below a depth of 40 inches (102 centimeters). Typically, the soils are effervescent below the A horizon, although the A horizon is effervescent in some pedons.

A horizon:

Hue—10YR or 2.5YR dry and moist
Value—5 to 7 dry and 3 to 6 moist
Chroma—2 to 6 dry and moist
Texture of the fine-earth fraction—loamy sand or sandy loam
Content of clay—4 to 12 percent
Content of organic matter—0.5 to 0.9 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 25 percent 2- to 75-millimeter gravel

C horizons:

Hue—10YR or 2.5YR dry and moist
Value—5 to 7 dry and 4 to 6 moist
Chroma—2 to 6 dry and moist
Texture of the fine-earth fraction—coarse sand, sand, loamy sand, fine sand, loamy fine sand, sandy loam, or silt loam
Content of clay—4 to 12 percent
Content of organic matter—0.05 to 0.4 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel

Guijarral Series

The Guijarral series consists of very deep, well drained soils that formed in alluvium derived from calcareous sedimentary rock. These soils are on fan remnants. Slope is 0 to 15 percent. Guijarral soils are classified as coarse-loamy, mixed, superactive, thermic Typic Haplocalcids.

Typical pedon

In map unit 193, Guijarral gravelly sandy loam, 2 to 5 percent slopes; Kern County, California; about 9.3 miles (15.0 kilometers) northwest of downtown Taft; about 1,670 feet (509.2 meters) south and 1,780 feet (542.7 meters) east of the northwest corner of sec. 36, T. 31 S., R. 22 E.; Mount Diablo Base and Meridian; latitude 35 degrees 11 minutes 24 seconds north and longitude 119 degrees 33 minutes 56 seconds west; USGS Taft, California, Quadrangle, NAD83.

- A1—0 to 1 inch (0 to 3 centimeters); brown (10YR 5/3) gravelly sandy loam, dark brown (10YR 3/3) moist; moderate medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial and many very fine tubular and vesicular pores; 20 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.4); abrupt smooth boundary.
- A2—1 to 4 inches (3 to 10 centimeters); brown (10YR 5/3) gravelly sandy loam, dark brown (10YR 5/4) moist; weak very fine granular structure; slightly hard, very friable, slightly sticky, and slightly plastic; common very fine roots; common very fine interstitial and few fine tubular and vesicular pores; 20 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.4); abrupt smooth boundary.
- Bw—4 to 16 inches (10 to 41 centimeters); very pale brown (10YR 7/3) gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and slightly plastic; common very fine roots;

common very fine tubular and interstitial and few fine tubular pores; 20 percent gravel; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.1); clear smooth boundary.

Bk—16 to 29 inches (41 to 74 centimeters); very pale brown (10YR 7/3) gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak coarse subangular blocky structure parting to weak medium subangular blocky; slightly hard, very friable, nonsticky and slightly plastic; few very fine roots; common very fine tubular and interstitial pores; calcium carbonate equivalent of 6 percent; 20 percent 2- to 75-millimeter gravel; violently effervescent; carbonates disseminated and segregated as common fine and medium soft filaments and some coatings on gravel; strongly alkaline (pH 9.0); clear wavy boundary.

C—29 to 39 inches (74 to 99 centimeters); very pale brown (10YR 7/3) gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, nonsticky and slightly plastic; few very fine roots; common very fine tubular and interstitial pores; 20 percent 2- to 75-millimeter gravel; violently effervescent; carbonates disseminated and segregated as few fine soft filaments; strongly alkaline (pH 8.9); abrupt wavy boundary.

2Ck—39 to 46 inches (99 to 117 centimeters); white (10YR 8/2) very gravelly sandy loam, light yellowish brown (10YR 6/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 45 percent 2- to 75-millimeter gravel; strongly effervescent; carbonates disseminated and segregated as coatings on all sides of pebbles; moderately alkaline (pH 8.2); abrupt wavy boundary.

3C1—46 to 51 inches (117 to 130 centimeters); very pale brown (10YR 7/3) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; no roots; many very fine interstitial, common very fine tubular, and few fine tubular pores; 45 percent 2- to 75-millimeter gravel; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

3C2—51 to 60 inches (130 to 152 centimeters); very pale brown (10YR 8/4) very gravelly sandy loam, yellowish brown (10YR 5/6) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; no roots; many very fine and few fine interstitial pores; 45 percent 2- to 75-millimeter gravel; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.0).

Range in characteristics

About 0 to 50 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sedimentary rock. The content of clay is 10 to 18 percent. The sodium adsorption ratio is 1 to 5. Electrical conductivity is 0 to 8 decisiemens per meter. Calcium carbonate equivalent is 4 to 8 percent and does not decrease with increasing depth.

A horizons:

Hue—10YR dry and moist

Value—5 or 6 dry and 3 to 5 moist

Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—sandy loam

Content of organic matter—0.5 to 1.25 percent

Reaction—moderately alkaline

Content of rock fragments—15 to 30 percent 2- to 75-millimeter gravel

Bw horizon:

Hue—10YR dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—3 or 4 dry and moist

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Texture of the fine-earth fraction—sandy loam or loam
Content of organic matter—0.4 to 0.6 percent
Reaction—moderately alkaline
Content of rock fragments—15 to 30 percent 2- to 75-millimeter gravel

Bk horizon:

Hue—10YR dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of organic matter—0.3 to 0.5 percent
Reaction—moderately alkaline
Content of rock fragments—15 to 30 percent 2- to 75-millimeter gravel

C horizon:

Hue—10YR dry and moist
Value—6 or 7 dry and 4 to 6 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of organic matter—0.2 to 0.4 percent
Reaction—moderately alkaline
Content of rock fragments—15 to 30 percent 2- to 75-millimeter gravel

2Ck and 3C horizons:

Hue—10YR dry and moist
Value—6 to 8 dry and 5 or 6 moist
Chroma—2 to 4 dry and 4 to 6 moist
Texture of the fine-earth fraction—sandy loam or loam
Content of organic matter—0.05 to 0.3 percent
Reaction—moderately alkaline
Content of rock fragments—35 to 70 percent 2- to 75-millimeter gravel

Haplocambids, Thick

Haplocambids, thick, consist of very deep, well drained soils that formed in uplifted alluvium derived from sandstone, shale, and/or granitoid rock. These soils are on hillslopes. Slope is 9 to 30 percent.

Typical pedon

In map unit 730, Haplocambids, thick-Elkhills complex, 9 to 15 percent slopes; Kern County, California; about 4.6 miles (7.4 kilometers) northeast of Fellows; 450 feet (137.2 meters) west and 2,100 feet (640.1 meters) north of the southeast corner of sec. 8, T. 31. S., R. 23 E.; Mount Diablo Base and Meridian; latitude 35 degrees 14 minutes 22 seconds north and longitude 119 degrees 31 minutes 11 seconds west; USGS Fellows, California, Quadrangle, NAD83.

This pedon is representative of the thick Haplocambids in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

A1—0 to 1 inch (0 to 3 centimeters); light gray (10YR 7/2) loam, grayish brown (10YR 5/2) moist; moderate thick platy structure parting to medium platy; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular and few very fine interstitial pores; strongly effervescent; carbonates disseminated; 5 percent 2- to 20-millimeter gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—1 to 5 inches (3 to 13 centimeters); very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; moderate coarse subangular blocky structure parting to

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moderate medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular and common very fine interstitial pores; violently effervescent; carbonates disseminated; 5 percent 2- to 20-millimeter gravel; moderately alkaline (pH 8.4) clear wavy boundary.

Bw—5 to 16 inches (13 to 41 centimeters); very pale brown (10YR 7/4) loam, yellowish brown (10YR 5/4) moist; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular and common very fine interstitial pores; violently effervescent; carbonates disseminated; 5 percent 2- to 20-millimeter gravel; strongly alkaline (pH 8.6); clear wavy boundary.

Bnz1—16 to 20 inches (41 to 51 centimeters); light olive brown (2.5Y 7/4) loam, light olive brown (2.5Y 5/4) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; slightly hard, very friable, sticky and slightly plastic; few very fine roots; few very fine tubular and common very fine interstitial pores; violently effervescent; carbonates disseminated and segregated as very few fine irregular soft masses and very few fine threads; 5 percent 2- to 20-millimeter gravel; moderately alkaline (pH 8.4); clear wavy boundary.

Bnz2—20 to 26 inches (41 to 66 centimeters); yellow (2.5Y 7/6) gravelly sandy clay loam, yellowish brown (2.5Y 5/8) moist; massive; slightly hard, very friable, sticky and slightly plastic; few very fine roots; common very fine interstitial pores; violently effervescent; carbonates disseminated and segregated as very few irregular threads and soft masses; 20 percent 2- to 20-millimeter gravel; moderately alkaline (pH 8.2) clear wavy boundary.

Bnz3—26 to 33 inches (66 to 84 centimeters); very pale brown (10YR 7/4) gravelly sandy loam, light yellowish brown (10YR 6/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine interstitial pores; violently effervescent; carbonates disseminated and segregated as very few irregular soft masses and very few fine threads; 30 percent 2- to 20-millimeter gravel; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bnz4—33 to 54 inches (84 to 137 centimeters); very pale brown (2.5Y 7/4) gravelly loam, yellowish brown (2.5Y 5/8) moist; massive; slightly hard, very friable, sticky and slightly plastic; few very fine interstitial pores; violently effervescent; carbonates disseminated and segregated as very few irregular threads; 30 percent 2- to 20-millimeter gravel; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bnz5—54 to 60 inches (137 to 154 centimeters); very pale brown (2.5Y 7/4) very gravelly loam, yellowish brown (2.5Y 5/8) moist; massive; slightly hard, very friable, sticky and slightly plastic; common very fine interstitial pores; strongly effervescent; carbonates disseminated and segregated as very few fine threads; 55 percent 2- to 20-millimeter gravel; moderately alkaline (pH 8.0).

Range in characteristics

A horizons:

Hue—10YR or 2.5Y dry and moist

Value—5 to 7 dry and 4 or 5 moist

Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—sandy loam or loam

Content of clay—15 to 27 percent

Content of organic matter—0.5 to 1.0 percent

Electrical conductivity—0.3 to 3 decisiemens per meter

Sodium adsorption ratio—1 to 12

Calcium carbonate equivalent—0 to 2 percent

Reaction—moderately alkaline to very strongly alkaline

Content of rock fragments—2 to 14 percent 2- to 20-millimeter gravel

Bw horizon:

Hue—10YR or 2.5Y dry and moist
Value—5 to 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam, loam, clay loam, or sandy clay loam
Content of clay—15 to 30 percent
Content of organic matter—0.3 to 0.6 percent
Electrical conductivity—0.3 to 3 decisiemens per meter
Sodium adsorption ratio—3 to 12
Calcium carbonate equivalent—0 to 2 percent
Reaction—moderately alkaline to very strongly alkaline
Content of rock fragments—2 to 20 percent 2- to 20-millimeter gravel

Bknz horizons:

Hue—10YR, 2.5Y, or 5Y dry and moist
Value—6 to 8 dry and 4 to 6 moist
Chroma—1 to 8 dry and moist
Texture of the fine-earth fraction—sandy loam, loam, clay loam, or sandy clay loam
Content of clay—15 to 30 percent
Content of organic matter—0.01 to 0.5 percent
Electrical conductivity—2 to 20 decisiemens per meter
Sodium adsorption ratio—5 to 40
Calcium carbonate equivalent—0 to 3 percent
Reaction—moderately alkaline to very strongly alkaline
Content of rock fragments—2 to 65 percent 2- to 20-millimeter gravel

Haploxerepts

Haploxerepts consist of very deep, well drained soils that formed in mixed alluvium and colluvium derived from sandstone and shale. These soils are on stream terraces and hillslopes. Slope is 2 to 75 percent.

Typical pedon

In map unit 389, Xerofluvents-Haploxerepts-Riverwash complex, 0 to 15 percent slopes; Kern County, California; about 1,440 feet (440 meters) north-northwest of the mouth of East Twin Creek, 1,350 feet (411.5 meters) west of the Santiago Corrals, in an unsectionalized area, T. 10 N, R. 23 W.; San Bernardino Base and Meridian; latitude 34 degrees 56 minutes 15 seconds north and longitude 119 degrees 18 minutes 06 seconds west; USGS Santiago Creek, California, Quadrangle, NAD83.

This pedon is representative of the Haploxerepts in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A—0 to 7 inches (0 to 18 centimeters); light brownish gray (10YR 6/2) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure parting to moderate fine subangular blocky; slightly hard, friable, slightly sticky and nonplastic; common very fine roots; common very fine irregular pores; slightly effervescent; 30 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.8); clear wavy boundary.
- Bk1—7 to 20 inches (18 to 51 centimeters); pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and nonplastic; common very fine roots; many very fine tubular and common very fine irregular pores; slightly effervescent; 30 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.8); clear wavy boundary.
- Bk2—20 to 41 inches (51 to 104 centimeters); pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; hard,

friable, slightly sticky and nonplastic; common very fine roots; many very fine tubular and common very fine irregular pores; slightly effervescent; 20 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.8); clear wavy boundary.
Bk3—41 to 60 inches (104 to 152 centimeters); pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; hard, friable, slightly sticky and nonplastic; common very fine roots; many very fine tubular and common very fine irregular pores; slightly effervescent; 18 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.8).

Range in characteristics

About 20 to 60 percent of the surface is covered by 2- to 75-millimeter gravel of mixed mineralogy.

A horizon:

Hue—10YR dry and moist
Value—5 or 6 dry and 3 or 4 moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—sandy loam or clay loam
Content of clay—8 to 34 percent
Content of organic matter—0.75 to 1.25 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—15 to 40 percent 2- to 75-millimeter gravel

Bk horizons:

Hue—10YR dry and moist
Value—5 or 6 dry and 4 or 5 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam or clay loam
Content of clay—8 to 34 percent
Content of organic matter—0.1 to 0.7 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—15 to 40 percent 2- to 75-millimeter gravel

Haploxerolls, Coarse-Loamy

Haploxerolls, coarse-loamy, consist of moderately deep, well drained soils that formed in residuum derived from sandstone. These soils are on mountain slopes. Slope is 15 to 60 percent.

Typical pedon

In map unit 954, Typic Haploxeralfs, fine-Haploxerolls, coarse-loamy, complex, 15 to 60 percent slopes; Kern County, California; about 1.0 mile (1.6 kilometers) northwest of Blue Ridge; about 2,000 feet (609.6 meters) south and 1,900 feet (579.1 meters) west of the northeast corner of sec. 35, T. 10 N., R. 23 E.; San Bernardino Base and Meridian; latitude 34 degrees 54 minutes 38 seconds north and longitude 119 degrees 18 minutes 04 seconds west; USGS Santiago Creek, California, Quadrangle, NAD83.

This pedon is representative of the coarse-loamy Haploxerolls in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

A1—0 to 4 inches (0 to 10 centimeters); grayish brown (10YR 5/2) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; very friable, soft, slightly sticky and slightly plastic; few medium, common fine, and many very fine roots; many fine interstitial pores; 20 percent 2- to 75-millimeter gravel; neutral (pH 7.0); clear wavy boundary.

- A2—4 to 17 inches (10 to 43 centimeters); brown (10YR 5/3) very stony sandy loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; very friable, soft, slightly sticky and slightly plastic; few medium, common fine, and common very fine roots; many fine interstitial pores; 20 percent 2- to 75-millimeter gravel, 20 percent 75- to 250-millimeter cobbles, and 10 percent 250- to 600-millimeter stones; neutral (pH 7.0); clear wavy boundary.
- C—17 to 34 inches (43 to 86 centimeters); pale yellow (2.5Y 7/4) extremely cobbly sandy loam, light olive brown (2.5Y 5/4) moist; massive; very friable, soft, nonsticky and nonplastic; common very fine roots; many fine interstitial pores; 20 percent 2- to 75-millimeter gravel, 50 percent 75- to 250-millimeter cobbles, and 10 percent 250- to 600-millimeter stones; neutral (pH 7.0); clear wavy boundary.
- R—34 to 44 inches (86 to 114 centimeters); very strongly cemented sandstone.

Range in characteristics

The depth to bedrock is 20 to 40 inches (51 to 102 centimeters). The percentage of the surface covered by rock fragments is as follows: 10 to 30 percent by 2- to 75-millimeter gravel consisting of shale, 0 to 10 percent by 75- to 250-millimeter cobbles, and 0 to 10 percent by 250- to 600-millimeter stones.

A horizons:

Hue—10YR dry and moist

Value—4 or 5 dry and 3 moist

Chroma—2 to 3 dry and moist

Texture of the fine-earth fraction—sandy loam

Content of organic matter—1.0 to 4.0 percent

Calcium carbonate equivalent—0 to 2 percent

Reaction—neutral or slightly alkaline

Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel, 0 to 30 percent 75- to 250-millimeter cobbles, and 0 to 20 percent 250- to 600-millimeter stones

C horizon:

Hue—10YR or 2.5Y dry and moist

Value—5 to 7 dry and 3 to 5 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—sandy loam

Content of organic matter—0.1 to 0.3 percent

Calcium carbonate equivalent—0 to 3 percent

Reaction—neutral or slightly alkaline

Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel, 0 to 60 percent 75- to 250-millimeter cobbles, and 0 to 20 percent 250- to 600-millimeter stones

Harrisranch Series

The Harrisranch series consists of very deep, well drained soils that formed in residuum or colluvium derived from sandstone. These soils are on mountain slopes. Slope is 9 to 75 percent. Harrisranch soils are classified as coarse-loamy, mixed, superactive, mesic Pachic Haploxerolls.

Typical pedon

In map unit 670, Harrisranch-Rock outcrop complex, 50 to 75 percent slopes; Kern County, California; in the Pleito Hills, about 25.5 miles (41.0 kilometers) southeast of

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Taft; 1,100 feet (335.3 meters) west and 450 feet (137.2 meters) south of the northeast corner of sec. 25, T. 10 N., R. 21 W.; San Bernardino Base and Meridian; latitude 34 degrees 56 minutes 02 seconds north and longitude 119 degrees 04 minutes 11 seconds west; USGS Pleito Hills, California, Quadrangle, NAD83.

A—0 to 3 inches (0 to 8 centimeters); brown (10YR 4/3) sandy loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine interstitial pores; slightly acid (pH 6.5); abrupt smooth boundary.

Bt1—3 to 23 inches (8 to 58 centimeters); brown (10YR 4/3) sandy loam, very dark grayish brown (10YR 3/2) moist; moderate very coarse and coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine, common fine, and common medium roots; common very fine interstitial, few very fine tubular, and few fine tubular pores; few faint clay films along surfaces of pores; slightly acid (pH 6.5); clear wavy boundary.

Bt2—23 to 43 inches (58 to 109 centimeters); brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky and plastic; few very fine, few fine, few medium, and few coarse roots; common very fine tubular pores; few faint clay films on faces of peds; neutral (pH 7.2); clear wavy boundary.

C—43 to 65 inches (109 to 165 centimeters); yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 3/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine, few fine, few medium, and few coarse roots; common very fine tubular and few very fine interstitial pores; neutral (pH 7.3).

Range in characteristics

A horizon:

Hue—10YR dry and moist
Value—4 or 5 dry and 3 moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—10 to 18 percent
Content of organic matter—1 to 3 percent
Reaction—slightly acid to slightly alkaline

Bt horizons:

Hue—10YR dry and moist
Value—4 or 5 dry and 2 or 3 moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—10 to 18 percent
Content of organic matter in the Bt1 horizon—1.0 to 1.5 percent
Reaction—slightly acid to slightly alkaline

C horizon:

Hue—10YR dry and moist
Value—5 to 7 dry and 3 to 5 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—10 to 18 percent
Content of organic matter—0.2 to 0.75 percent
Reaction—slightly acid to slightly alkaline

Hawk Series

The Hawk series consists of very deep, well drained soils that formed in alluvium derived from granite. These soils are on alluvial fans. Slope is 9 to 15 percent. Hawk soils are classified as loamy-skeletal, mixed, superactive, mesic Pachic Haploxerolls.

Typical pedon

In map unit 860, Hawk gravelly sandy loam, 9 to 15 percent slopes; Kern County, California; about 45 miles (72.4 kilometers) south of downtown Bakersfield; 900 feet (274.3 meters) south and 1,000 feet (304.8 meters) east of the northwest corner of sec. 28, T. 9 N., R. 19 W.; San Bernardino Base and Meridian; latitude 34 degrees 50 minutes 41 seconds north and longitude 118 degrees 54 minutes 12 seconds west; USGS Hawk Mountain, California, Quadrangle, NAD83.

- Oi—0 to 2 inches (0 to 5 centimeters); litter of twigs, branches, and dead grasses; 10 to 60 percent 2- to 75-millimeter gravel; strongly acid (pH 5.5); abrupt smooth boundary.
- A1—2 to 7 inches (5 to 18 centimeters); brown (10YR 5/3) gravelly sandy loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure parting to moderate fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; many fine and very fine and few medium roots; few very fine tubular and many fine and very fine interstitial pores; 30 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.
- A2—7 to 19 inches (18 to 48 centimeters); brown (10YR 5/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure parting to weak medium subangular blocky; soft, very friable, slightly sticky and slightly plastic; many fine and very fine and few medium roots; few fine tubular and common fine and very fine interstitial pores; 50 percent 2- to 75-millimeter gravel; neutral (pH 7.0); clear wavy boundary.
- A3—19 to 41 inches (48 to 104 centimeters); brown (10YR 5/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure parting to weak medium subangular blocky; soft, very friable, slightly sticky and slightly plastic; common fine and very fine and few medium roots; common fine and very fine tubular and common very fine interstitial pores; 35 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt wavy boundary.
- C—41 to 60 inches (104 to 152 centimeters); light yellowish brown (2.5Y 6/4) gravelly sandy loam, olive brown (2.5Y 4/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; many fine and few medium roots; common fine and very fine tubular and common fine and very fine interstitial pores; 30 percent 2- to 75-millimeter gravel and 5 percent 75- to 250-millimeter cobbles; neutral (pH 7.0).

Range in characteristics

About 10 to 55 percent of the surface is covered by 2- to 75-millimeter gravel consisting of granite.

A horizons:

- Hue—10YR dry and moist
- Value—5 dry and 3 moist
- Chroma—3 dry and moist
- Texture of the fine-earth fraction—sandy loam
- Content of clay—8 to 18 percent
- Content of organic matter—1.0 to 4 percent
- Reaction—neutral
- Content of rock fragments—10 to 60 percent 2- to 75-millimeter gravel

C horizon:

- Hue—10YR or 2.5Y dry and moist
- Value—5 or 6 dry and 3 or 4 moist
- Chroma—3 to 6 dry and moist
- Texture of the fine-earth fraction—sandy loam
- Content of clay—8 to 18 percent
- Content of organic matter—0.1 to 0.5 percent
- Reaction—neutral
- Content of rock fragments—10 to 60 percent 2- to 75-millimeter gravel and 0 to 10 percent 75- to 250-millimeter cobbles

Hesperia Series

The Hesperia series consists of very deep, well drained soils that formed in alluvium derived from granitoid rock. These soils are on alluvial fans. Slope is 0 to 2 percent. Hesperia soils are classified as coarse-loamy, mixed, superactive, nonacid, thermic Xeric Torriorthents.

Typical pedon

In the southeastern Kern County survey area, map unit 144, Hesperia sandy loam, 0 to 2 percent slopes; about 12 miles (19.3 kilometers) east-northeast of Laval, California; 120 feet (36.6 meters) north and 920 feet (280.4 meters) east of the southwest corner of sec. 19, T. 11 N., R. 18 W.; San Bernardino Base and Meridian; latitude 35 degrees 01 minute 00 seconds north and longitude 118 degrees 30 minutes 57 seconds west; USGS Tejon Hills, California, Quadrangle, NAD83.

- Ap—0 to 4 inches (0 to 10 centimeters); brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and nonplastic; common fine interstitial pores; moderately alkaline (pH 7.9); abrupt smooth boundary.
- C1—4 to 18 inches (10 to 46 centimeters); brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; hard, friable, slightly sticky and nonplastic; common fine interstitial pores; moderately alkaline (pH 8.0); clear smooth boundary.
- C2—18 to 34 inches (46 to 86 centimeters); brown (10YR 5/3) fine sandy loam, dark brown (10YR 3/3) moist; massive; hard, friable, slightly sticky and nonplastic; common fine interstitial pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); clear smooth boundary.
- C3—34 to 57 inches (86 to 145 centimeters); light yellowish brown (10YR 6/4) sandy loam mixed with lenses of pale brown (10YR 6/3) fine sandy loam and silt loam; dark yellowish brown (10YR 4/4) moist; massive; hard, friable, slightly sticky and nonplastic; common fine interstitial pores; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); gradual smooth boundary.
- C4—57 to 70 inches (145 to 178 centimeters); light yellowish brown (10YR 6/4) sandy loam, dark yellowish brown (10YR 4/4) moist; massive; hard, friable, nonsticky and nonplastic; common fine interstitial pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); gradual wavy boundary.

Range in characteristics

About 0 to 25 percent of the surface is covered by 2- to 75-millimeter gravel consisting of granitoid fragments.

A horizon:

- Hue—10YR dry and moist
- Value—5 dry and 3 or 4 moist

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Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—loamy sand, loamy fine sand, sandy loam, or fine sandy loam
Content of clay—3 to 18 percent
Content of organic matter—0.2 to 0.5 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 9 percent 2- to 75-millimeter gravel

C horizons:

Hue—10YR dry and moist
Value—5 or 6 dry and 3 to 6 moist
Chroma—3 or 4 dry and 2 to 4 moist
Texture of the fine-earth fraction—loamy sand, coarse sandy loam, sandy loam, or fine sandy loam
Content of clay—3 to 18 percent
Content of organic matter—0.01 to 0.3 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 25 percent 2- to 75-millimeter gravel

Hillbrick Series

The Hillbrick series consists of shallow, well drained soils that formed in residuum derived from calcareous sandstone and shale. These soils are on hillslopes. Slope is 15 to 75 percent. Hillbrick soils are classified as loamy, mixed, superactive, calcareous, thermic Lithic Xerorthents.

Typical pedon

In the survey area of San Luis Obispo County, Carrizo Plain, map unit 221, Beam-Panoza-Hillbrick complex, 30 to 50 percent slopes; about 2,950 feet (899.2 meters) north and 1,450 feet (442.0 meters) west of the southeast corner of sec. 3, T. 32 S., R. 22 E.; Mount Diablo Base and Meridian; latitude 35 degrees 10 minutes 04 seconds north and longitude 119 degrees 35 minutes 43 seconds west; USGS Fellows, California, Quadrangle, NAD83.

- A—0 to 4 inches (0 to 10 centimeters); light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; moderate fine subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; few very fine roots; few very fine interstitial and tubular pores; violently effervescent; carbonates disseminated; moderately alkaline (pH 8.2); clear wavy boundary.
- C—4 to 15 inches (10 to 38 centimeters); very pale brown (10YR 7/3) loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure parting to moderate fine subangular blocky; slightly hard, friable, nonsticky and slightly plastic; few very fine roots; common very fine and fine tubular pores; violently effervescent; carbonates disseminated; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear wavy boundary.
- R—15 to 24 inches (38 to 61 centimeters); very strongly cemented, slightly fractured, calcareous shale.

Range in characteristics

The depth to lithic contact is 10 to 20 inches (25 to 51 centimeters). About 0 to 15 percent of the surface is covered by 2- to 75-millimeter gravel consisting of calcareous sandstone and/or shale.

A horizon:

Hue—10YR dry and moist
Value—6 or 7 dry and 4 or 5 moist

Soil Survey of Kern County, California, Southwest Part

Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam, fine sandy loam, or loam
Content of clay—10 to 18 percent
Content of organic matter—0.1 to 0.5 percent
Calcium carbonate equivalent—1 to 5 percent
Reaction—slightly alkaline to strongly alkaline
Content of rock fragments—0 to 14 percent 2- to 75-millimeter gravel

C horizon:

Hue—10YR dry and moist
Value—6 or 7 dry and 4 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—loam
Content of clay—10 to 18 percent
Content of organic matter—0.1 to 0.5 percent
Calcium carbonate equivalent—1 to 5 percent
Reaction—slightly alkaline to strongly alkaline
Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel

Kimberlina Series

The Kimberlina series consists of very deep, well drained soils that formed in alluvium derived from granitoid and/or sedimentary rock. These soils are on recent alluvial fans and fan skirts. Slope is 0 to 15 percent. Kimberlina soils are classified as coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents.

Typical pedon

In the survey area of Kern County, northwestern part, map unit 174, Kimberlina fine sandy loam, 0 to 2 percent slopes; about 7 miles (11.3 kilometers) northwest of Shafter; about 100 feet (30.5 meters) north and 1,800 feet (548.6 meters) west of the southeast corner of sec 33, T. 27 S., R. 24 E.; Mount Diablo Base and Meridian; latitude 35 degrees 31 minutes 45 seconds north and longitude 119 degrees 23 minutes 30 seconds west; USGS Wasco Southwest, California, Quadrangle, NAD83.

- Ap—0 to 9 inches (0 to 23 centimeters); brown (10YR 5/3) fine sandy loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, friable, slightly sticky and nonplastic; many very fine roots; few very fine tubular and interstitial pores; moderately alkaline (pH 7.5); clear smooth boundary.
- C1—9 to 31 inches (23 to 79 centimeters); pale brown (10YR 6/3) fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; many very fine roots; few very fine tubular and interstitial pores; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); clear smooth boundary.
- C2—31 to 45 inches (79 to 114 centimeters); pale brown (10YR 6/3) fine sandy loam, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and many fine roots; many very fine tubular and interstitial pores; slightly effervescent; carbonates disseminated and segregated as few fine threads; moderately alkaline (pH 8.2); abrupt wavy boundary.
- 2C3—45 to 71 inches (114 to 180 centimeters); pale brown (10YR 6/3) silt loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine interstitial pores; strongly effervescent; carbonates disseminated and segregated as few fine threads; moderately alkaline (pH 8.2).

Range in characteristics

A horizon:

Hue—10YR or 2.5Y dry and moist
Value—5 to 7 dry and 3 or 4 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam or fine sandy loam
Content of clay—6 to 18 percent
Content of organic matter—0.5 to 1 percent
Electrical conductivity—0.3 to 8 decisiemens per meter
Sodium adsorption ratio—1 to 15
Calcium carbonate equivalent—1 to 5 percent
Reaction—neutral to moderately alkaline
Content of rock fragments—0 to 35 percent 2- to 75-millimeter gravel

C horizons:

Hue—10YR or 2.5Y dry and moist
Value—5 to 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam or fine sandy loam
Content of clay—6 to 18 percent
Content of organic matter—0.05 to 0.3 percent
Electrical conductivity—0.3 to 8 decisiemens per meter
Sodium adsorption ratio—1 to 20
Calcium carbonate equivalent—5 to 10 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 40 percent 2- to 75-millimeter gravel

2C horizon:

Hue—10YR or 2.5Y dry and moist
Value—5 to 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy clay loam, loam, or silt loam (generally stratified)
Content of clay—6 to 25 percent
Electrical conductivity—0.3 decisiemen per meter
Sodium adsorption ratio—1 to 15
Content of organic matter—0.05 to 0.1 percent
Calcium carbonate equivalent—5 to 10 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 25 percent 2- to 75-millimeter gravel

Klipstein Series

The Klipstein series consists of very deep, well drained soils that formed in alluvium derived from granitoid and/or sedimentary rock. These soils are on alluvial fans and fan remnants. Slope is 2 to 15 percent. Klipstein soils are classified as loamy-skeletal, mixed, superactive, thermic Typic Haplocambids.

Typical pedon

In map unit 192, Gujarral-Klipstein complex, 2 to 5 percent slopes; Kern County, California; about 26 miles (41.8 kilometers) southwest of downtown Bakersfield; 1.7 miles (2.7 kilometers) east and 0.8 mile (1.3 kilometers) south of the intersection of State Highway 166 and Basic School Road; 50 feet (15.2 meters) south and 1,600 feet (487.7 meters) west of the northeast corner of sec. 13, T. 11 N., R. 23 W.; San

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Bernardino Base and Meridian; latitude 35 degrees 02 minutes 48 seconds north and longitude 119 degrees 17 minutes 02 seconds west; USGS Pentland, California, Quadrangle, NAD83.

- A—0 to 5 inches (0 to 13 centimeters); pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; moderate medium angular blocky structure; hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; 10 percent 2- to 75-millimeter gravel, 1 percent 75- to 250-millimeter cobbles, 1 percent 250- to 600-millimeter stones, and 1 percent 600- to 3,000-millimeter boulders; slightly effervescent; carbonates disseminated; slightly alkaline (pH 7.4); abrupt smooth boundary.
- Bw—5 to 23 inches (13 to 58 centimeters); pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; 60 percent 2- to 75-millimeter gravel, 10 percent 75- to 250-millimeter cobbles, 1 percent 250- to 600-millimeter stones, and 1 percent 600- to 3,000-millimeter boulders; slightly effervescent; carbonates disseminated; slightly alkaline (pH 7.4); abrupt smooth boundary.
- Bk1—23 to 31 inches (58 to 79 centimeters); light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine tubular pores; 50 percent 2- to 75-millimeter gravel, 1 percent 75- to 250-millimeter cobbles, 1 percent 250- to 600-millimeter stones, and 1 percent 600- to 3,000-millimeter boulders; violently effervescent; carbonates disseminated and segregated as powdery coatings on the underside of some rock fragments; slightly alkaline (pH 7.5); abrupt smooth boundary.
- Bk2—31 to 36 inches (79 to 91 centimeters); light yellowish brown (10YR 6/4) loamy sand, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine interstitial pores; 10 percent 2- to 75-millimeter gravel, 1 percent 75- to 250-millimeter cobbles, 1 percent 250- to 600-millimeter stones, and 1 percent 600- to 3,000-millimeter boulders; violently effervescent; carbonates disseminated and segregated as few fine threads and powdery coatings on the underside of some rock fragments; slightly alkaline (pH 7.5); abrupt smooth boundary.
- Bk3—36 to 60 inches (91 to 152 centimeters); light yellowish brown (10YR 6/4) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; no roots; common fine interstitial and few very fine tubular pores; 60 percent 2- to 75-millimeter gravel, 10 percent 75- to 250-millimeter cobbles, 1 percent 250- to 600-millimeter stones, and 1 percent 600- to 3,000-millimeter boulders; violently effervescent; carbonates disseminated and segregated as powdery coatings on the underside of some rock fragments; slightly alkaline (pH 7.4).

Range in characteristics

Rock fragments on the surface consist of sedimentary and/or granitoid rock. The percentage of the surface covered by rock fragments is as follows: 0 to 35 percent by 2- to 75-millimeter gravel, 0 to 35 percent by 75- to 250-millimeter cobbles, 0 to 35 percent by 250- to 600-millimeter stones, and 0 to 5 percent by 600- to 3,000-millimeter boulders of mixed mineralogy. The content of clay is 5 to 18 percent. The calcium carbonate equivalent is 2 to 4 percent. Electrical conductivity is 0 to 2 decisiemens per meter. The sodium adsorption ratio is 0 to 5.

A horizon:

Hue—10YR dry and moist

Value—5 or 6 dry and 3 or 4 moist

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Chroma—3 dry and moist
Texture of the fine-earth fraction—loamy sand or sandy loam
Content of organic matter—0.1 to 0.5 percent
Reaction—neutral to moderately alkaline
Content of rock fragments—5 to 20 percent 2- to 75-millimeter gravel, 0 to 35 percent 75- to 250-millimeter cobbles, 0 to 35 percent 250- to 600-millimeter stones, and 0 to 5 percent 600- to 3,000-millimeter boulders

Bw horizon:

Hue—10YR dry and moist
Value—6 or 7 dry and 3 or 4 moist
Chroma—3 dry and moist
Texture of the fine-earth fraction—loamy sand or sandy loam
Content of organic matter—0.1 to 0.5 percent
Reaction—neutral to moderately alkaline
Content of rock fragments—5 to 70 percent 2- to 75-millimeter gravel, 0 to 35 percent 75- to 250-millimeter cobbles, 0 to 35 percent 250- to 600-millimeter stones, and 0 to 5 percent 600- to 3,000-millimeter boulders

Bk horizons:

Hue—10YR dry and moist
Value—6 or 7 dry and 3 to 5 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—loamy sand or sandy loam
Content of organic matter—0.05 to 0.5 percent
Reaction—neutral to moderately alkaline
Content of rock fragments—5 to 70 percent 2- to 75-millimeter gravel, 0 to 35 percent 75- to 250-millimeter cobbles, 0 to 35 percent 250- to 600-millimeter stones, and 0 to 5 percent 600- to 3,000-millimeter boulders

Laval Series

The Laval series consists of very deep, somewhat excessively drained soils that formed in alluvium derived from granitoid and/or sedimentary rock. These soils are on alluvial fans and/or flood plains. Slope is 1 to 15 percent. Laval soils are classified as sandy-skeletal, mixed, thermic Xeric Torrifluvents.

Typical pedon

In map unit 561, Laval-Pleitito complex, 5 to 15 percent slopes; Kern County, California; about 29 miles (46.7 kilometers) southwest of downtown Bakersfield; about 1 mile (1.6 kilometers) west of the intersection of Interstate Highway 5 and Laval Road; 1,040 feet (317.0 meters) north and 2,470 feet (752.9 meters) west of the southeast corner of sec. 36, T. 11 N., R. 20 W.; San Bernardino Base and Meridian; latitude 34 degrees 59 minutes 13 seconds north and longitude 118 degrees 57 minutes 44 seconds west; USGS Grapevine, California, Quadrangle, NAD83.

- A—0 to 4 inches (0 to 10 centimeters); brown (10YR 5/3) gravelly sandy loam, dark brown (10YR 3/3) moist; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; soft, very friable, slightly sticky and nonplastic; common very fine roots; many very fine interstitial pores; slightly effervescent; carbonates disseminated; 5 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.8); abrupt smooth boundary.
- C1—4 to 13 inches (10 to 33 centimeters); very pale brown (10YR 7/3) extremely gravelly coarse sandy loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure parting to moderate fine subangular blocky; slightly hard, friable, slightly sticky and nonplastic; common very fine roots; many very

- fine interstitial and few very fine tubular pores; strongly effervescent; carbonates disseminated; 70 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); abrupt smooth boundary.
- C2—13 to 20 inches (33 to 51 centimeters); very pale brown (10YR 7/4) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; few very fine roots; many very fine interstitial pores; strongly effervescent; carbonates disseminated; 50 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.5); abrupt smooth boundary.
- C3—20 to 23 inches (51 to 58 centimeters); very pale brown (10YR 7/3) loamy coarse sand, brown (10YR 5/3) moist; weak thick platy structure resulting from geologic stratification; slightly hard, friable, slightly sticky and nonplastic; common very fine and few fine roots; common very fine interstitial pores; slightly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.5); abrupt smooth boundary.
- C4—23 to 32 inches (58 to 81 centimeters); very pale brown (10YR 7/3) extremely gravelly sand, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; few very fine roots; many very fine interstitial pores; slightly effervescent; carbonates disseminated; 70 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.4); clear smooth boundary.
- C5—32 to 48 inches (81 to 122 centimeters); very pale brown (10YR 7/3) extremely gravelly loamy coarse sand, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; no roots; many very fine, common fine, and few medium interstitial pores; slightly effervescent; carbonates disseminated; 70 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.6); clear smooth boundary.
- C6—48 to 60 inches (122 to 152 centimeters); pale brown (10YR 6/3) extremely gravelly loamy coarse sand, brown (10YR 4/3) moist; soft, very friable, slightly sticky and nonplastic; no roots; many very fine, common fine, and few medium interstitial pores; slightly effervescent; carbonates disseminated; 60 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.6).

Range in characteristics

About 5 to 20 percent of the surface is covered by 2- to 75-millimeter gravel consisting of granitoid and/or sedimentary rock.

A horizon:

- Hue—10YR dry and moist
- Value—5 or 6 dry and 3 or 4 moist
- Chroma—3 dry and moist
- Texture of the fine-earth fraction—sandy loam
- Content of clay—10 to 18 percent
- Content of organic matter—1.5 to 2.5 percent
- Reaction—slightly alkaline to strongly alkaline
- Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel

C horizons:

- Hue—10YR dry and moist
- Value—6 or 7 dry and 3 to 5 moist
- Chroma—3 or 4 dry and moist
- Texture of the fine-earth fraction—coarse sand, sand, loamy coarse sand, loamy sand, coarse sandy loam, or sandy loam
- Content of clay—4 to 18 percent
- Content of organic matter—0.05 to 2.0 percent
- Reaction—moderately alkaline or strongly alkaline

Content of rock fragments—10 to 80 percent 2- to 75-millimeter gravel; in some pedons, 0 to 10 percent 75- to 600-millimeter cobbles and/or stones

Legray Series

The Legray series consists of very deep, well drained soils that formed in alluvium derived from sedimentary and/or granitoid rock. These soils are on hillslopes. Slope is 15 to 50 percent. Legray soils are classified as sandy-skeletal, mixed, thermic Typic Haplocambids.

Typical pedon

In map unit 660, Elkhills-Legray complex, 15 to 30 percent slopes; Kern County, California; about 1.25 miles (2.0 kilometers) northeast of Taft; about 250 feet (76.2 meters) south and 350 feet (106.7 meters) east of the northwest corner of sec. 7, T. 32 S., R. 24 E.; San Bernardino Base and Meridian; latitude 35 degrees 09 minutes 55 seconds north and longitude 119 degrees 26 minutes 46 seconds west; USGS Taft, California, Quadrangle, NAD83.

- A1—0 to 4 inches (0 to 10 centimeters); very pale brown (10YR 7/3) cobbly sandy loam, brown (10YR 5/3) moist; moderate medium platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and few fine roots; few very fine tubular and few very fine interstitial pores; calcium carbonate equivalent of 3 percent; slightly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel and 5 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.0); abrupt smooth boundary.
- Bw—4 to 13 inches (10 to 33 centimeters); very pale brown (10YR 7/3) cobbly sandy loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and few fine roots; few very fine tubular and few very fine interstitial pores; calcium carbonate equivalent of 3 percent; strongly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel and 10 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2); abrupt smooth boundary.
- Bk—13 to 26 inches (33 to 66 centimeters); very pale brown (10YR 7/3) very gravelly loamy sand, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; calcium carbonate equivalent of 4 percent; common very fine interstitial pores; violently effervescent; carbonates disseminated; 25 percent 2- to 75-millimeter gravel and 10 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.0); abrupt smooth boundary.
- Btk—26 to 32 inches (66 to 81 centimeters); very pale brown (10YR 7/3) very cobbly loamy sand, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine tubular and common very fine interstitial pores; calcium carbonate equivalent of 2 percent; common distinct clay films bridging sand grains; slightly effervescent; carbonates disseminated; 20 percent 2- to 75-millimeter gravel and 35 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.0); abrupt smooth boundary.
- Bt1—32 to 39 inches (81 to 99 centimeters); very pale brown (10YR 7/4) very cobbly loamy sand, yellowish brown (10YR 5/6) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; common distinct clay films bridging sand grains; common very fine interstitial pores; 30 percent 2- to 75-millimeter gravel and 20 percent 75- to 250-millimeter cobbles; slightly alkaline (pH 7.5); abrupt smooth boundary.
- Bt2—39 to 48 inches (99 to 122 centimeters); very pale brown (10YR 7/4) very gravelly loamy sand, yellowish brown (10YR 5/6) moist; massive; hard, friable, nonsticky and nonplastic; few fine tubular and common very fine interstitial pores;

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common faint clay films bridging sand grains; 20 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.5); abrupt smooth boundary.

C1—48 to 61 inches (122 to 155 centimeters); very pale brown (10YR 7/4) gravelly loamy sand, yellowish brown (10YR 5/6) moist; massive; soft, very friable, nonsticky and nonplastic; no roots; few very fine interstitial pores; 20 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.5); abrupt smooth boundary.

C2—61 to 65 inches (155 to 165 centimeters); very pale brown (10YR 7/4); very cobbly loamy sand, yellowish brown (10YR 5/6) moist; massive; soft, very friable, nonsticky and nonplastic; no roots; few very fine interstitial pores; 25 percent 2- to 75-millimeter gravel and 25 percent 75- to 250-millimeter cobbles; slightly alkaline (pH 7.5).

Range in characteristics

The percentage of the surface covered by rock fragments is as follows: 10 to 30 percent by 2- to 75-millimeter gravel and 2 to 10 percent by 75- to 250-millimeter cobbles consisting of granitoid and/or sedimentary rock.

A horizon:

Hue—10YR or 2.5Y dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—sandy loam

Content of clay—8 to 18 percent

Content of organic matter—0.5 to 1 percent

Electrical conductivity—1 to 4 decisiemens per meter

Sodium adsorption ratio—1 to 10

Calcium carbonate equivalent—2 to 4 percent

Content of gypsum—0 to 2 percent

Reaction—moderately alkaline

Content of rock fragments—5 to 15 percent 2- to 75-millimeter gravel and 2 to 10 percent 75- to 250-millimeter cobbles

Bw horizon:

Hue—10YR or 2.5Y dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—sandy loam

Content of clay—8 to 18 percent

Content of organic matter—0.4 to 0.6 percent

Electrical conductivity—1 to 4 decisiemens per meter

Sodium adsorption ratio—1 to 10

Calcium carbonate equivalent—2 to 4 percent

Content of gypsum—0 to 2 percent

Reaction—moderately alkaline

Content of rock fragments—5 to 15 percent 2- to 75-millimeter gravel and 5 to 15 percent 75- to 250-millimeter cobbles

Bk horizon:

Hue—10YR or 2.5Y dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—loamy sand or sandy loam

Content of clay—8 to 18 percent

Content of organic matter—0.3 to 0.5 percent

Electrical conductivity—1 to 4 decisiemens per meter

Sodium adsorption ratio—1 to 10

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Calcium carbonate equivalent—3 to 4 percent
Content of gypsum—0 to 2 percent
Reaction—moderately alkaline
Content of rock fragments—20 to 30 percent 2- to 75-millimeter gravel and 5 to 15 percent 75- to 250-millimeter cobbles

Btk horizon:

Hue—10YR or 2.5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—coarse loamy sand or loamy sand
Content of clay—3 to 10 percent
Content of organic matter—0.2 to 0.4 percent
Electrical conductivity—1 to 8 decisiemens per meter
Sodium adsorption ratio—1 to 10
Calcium carbonate equivalent—1 to 3 percent
Content of gypsum—0 to 2 percent
Reaction—moderately alkaline
Content of rock fragments—15 to 25 percent 2- to 75-millimeter gravel and 30 to 40 percent 75- to 250-millimeter cobbles

Bt horizons:

Hue—10YR or 2.5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—3 to 6 dry and moist
Texture of the fine-earth fraction—coarse loamy sand or loamy sand
Content of clay—3 to 10 percent
Content of organic matter—0.05 to 0.3 percent
Electrical conductivity—1 to 8 decisiemens per meter
Sodium adsorption ratio—1 to 6
Calcium carbonate equivalent—0 to 1 percent
Content of gypsum—0 to 2 percent
Reaction—slightly alkaline
Content of rock fragments—15 to 35 percent 2- to 75-millimeter gravel and 15 to 25 percent 75- to 250-millimeter cobbles

C horizons:

Hue—10YR or 2.5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—3 or 4 dry and 3 to 6 moist
Texture of the fine-earth fraction—coarse loamy sand or loamy sand
Content of clay—3 to 10 percent
Content of organic matter—0.01 to 0.1 percent
Electrical conductivity—1 to 8 decisiemens per meter
Sodium adsorption ratio—1 to 6
Calcium carbonate equivalent—0 to 1 percent
Content of gypsum—0 to 2 percent
Reaction—slightly alkaline
Content of rock fragments—15 to 35 percent 2- to 75-millimeter gravel and 20 to 30 percent 75- to 250-millimeter cobbles

Lithic Argixerolls

Lithic Argixerolls consist of shallow, well drained soils that formed in residuum derived from sandstone. These soils are on mountain slopes. Slope is 50 to 75 percent. The soils are classified as mixed, superactive, mesic Lithic Argixerolls.

Typical pedon

In map unit 650, Lithic Argixerolls-Lithic Xerorthents-Rock outcrop complex, 50 to 75 percent slopes, mesic; Kern County, California; in the San Emidio Hills; 1,940 feet (591.3 meters) north and 690 feet (210.3 meters) west of the southeast corner of sec. 36, T. 10 N., R. 22 W.; San Bernardino Base and Meridian; latitude 34 degrees 54 minutes 26 seconds north and longitude 119 degrees 10 minutes 31 seconds west; USGS Eagle Rest Peak, California, Quadrangle, NAD83.

This pedon is representative of the Lithic Argixerolls in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A1—0 to 2 inches (0 to 5 centimeters); brown (10YR 4/3) gravelly fine sandy loam, black (10YR 2/1) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; few very fine tubular pores; 20 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.
- A2—2 to 7 inches (5 to 18 centimeters); brown (10YR 4/3) extremely flaggy fine sandy loam, black (10YR 2/1) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many medium and coarse and common very fine and fine roots; few very fine tubular pores; 20 percent 2- to 75-millimeter gravel and 40 percent 150- to 380-millimeter flagstones; neutral (pH 7.0); abrupt wavy boundary.
- Bt—7 to 11 inches (18 to 28 centimeters); brown (10YR 5/3) extremely flaggy fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine and few coarse roots; common very fine tubular pores; 25 percent 2- to 75-millimeter gravel and 50 percent 150- to 380-millimeter flagstones; neutral (pH 7.0); abrupt wavy boundary.
- R—11 to 21 inches (28 to 53 centimeters); strongly cemented sandstone.

Range in characteristics

The depth to lithic contact is 10 to 20 inches (25 to 51 centimeters). About 20 to 40 percent of the surface is covered by 2- to 75-millimeter gravel consisting of shale fragments.

A horizons:

- Hue—10YR dry and moist
- Value—3 or 4 dry and 2 or 3 moist
- Chroma—1 to 3 dry and moist
- Texture of the fine-earth fraction—fine sandy loam
- Content of clay—5 to 18 percent
- Content of organic matter—1.0 to 1.5 percent
- Reaction—slightly acid to slightly alkaline
- Content of rock fragments in the A1 horizon—10 to 35 percent 2- to 75-millimeter gravel
- Content of rock fragments in the A2 horizon—20 to 35 percent 2- to 75-millimeter gravel and 20 to 50 percent 150- to 380-millimeter flagstones

Bt horizon:

- Hue—10YR dry and moist
- Value—3 to 5 dry and 2 or 3 moist
- Chroma—2 or 3 dry and moist
- Texture of the fine-earth fraction—fine sandy loam
- Content of clay—10 to 18 percent
- Content of organic matter—1.0 to 1.2 percent
- Reaction—slightly acid to slightly alkaline

Content of rock fragments—15 to 35 percent 2- to 75-millimeter gravel and 20 to 60 percent 150- to 380-millimeter flagstones

Lithic Xerorthents

Lithic Xerorthents consist of shallow, well drained soils that formed in residuum derived from granitoid rock. These soils are on mountain slopes. Slope is 30 to 60 percent. The soils are classified as thermic Lithic Xerorthents.

Typical pedon

In map unit 720, Friant-Geghus-Lithic Xerorthents complex, 30 to 60 percent slopes, thermic; Kern County, California; about 13 miles (20.9 kilometers) south-southeast of Maricopa, in the San Emidio Hills; about 500 feet (152.4 meters) north and 1,470 feet (448.1 meters) west of the southeast corner of sec. 24, T. 10 N., R. 23 W.; San Bernardino Base and Meridian; latitude 34 degrees 55 minutes 53 seconds north and longitude 119 degrees 16 minutes 52 seconds west; USGS Santiago Creek, California, Quadrangle, NAD83.

This pedon is representative of the Lithic Xerorthents in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A—0 to 6 inches (0 to 15 centimeters); pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; few very fine irregular pores; 20 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.
- R—6 to 16 inches (15 to 40 centimeters); very strongly cemented granitoid rock.

Range in characteristics

The depth to lithic contact is 4 to 16 inches (10 to 40 centimeters). About 20 to 40 percent of the surface is covered by 2- to 75-millimeter gravel consisting of granitoid rock.

A horizon:

- Hue—10YR dry and moist
- Value—5 to 7 dry and moist
- Chroma—3 to 5 dry and moist
- Texture of the fine-earth fraction—sandy loam
- Content of clay—8 to 18 percent
- Content of organic matter—0.5 to 1.0 percent
- Electrical conductivity—0.3 to 1 decisiemen per meter
- Sodium adsorption ratio—1 to 5 percent
- Reaction—neutral
- Content of rock fragments—10 to 30 percent 2- to 75-millimeter gravel

Lithic Xerorthents, Mesic

Lithic Xerorthents, mesic, consist of shallow, well drained soils that formed in residuum derived from sandstone. These soils are on mountain slopes. Slope is 50 to 75 percent.

Typical pedon

In map unit 650, Lithic Argixerolls-Lithic Xerorthents-Rock outcrop complex, 50 to 75 percent slopes, mesic; Kern County, California; in the San Emidio Hills; 1,540 feet (469.4 meters) north and 1,670 feet (509.0 meters) west of the southeast corner of sec. 36, T. 10 N., R. 22 W.; San Bernardino Base and Meridian; latitude 34 degrees

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54 minutes 22 seconds north and longitude 119 degrees 10 minutes 31 seconds west; USGS Eagle Rest Peak, California, Quadrangle, NAD83.

This pedon is representative of the mesic Lithic Xerorthents in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

A1—0 to 7 inches (0 to 18 centimeters); light yellowish brown (10YR 6/4) extremely bouldery sandy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine and common fine roots; few very fine tubular pores; 20 percent 2- to 75-millimeter gravel, 20 percent 75- to 250-millimeter cobbles, 10 percent 250- to 600-millimeter stones, and 10 percent 600- to 3,000-millimeter boulders; slightly alkaline (pH 7.5); abrupt smooth boundary.

A2—7 to 9 inches (5 to 23 centimeters); light yellowish brown (10YR 6/4) extremely bouldery sandy loam, dark brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine, fine, and medium roots; 20 percent 2- to 75-millimeter gravel, 20 percent 75- to 250-millimeter cobbles, 10 percent 250- to 600-millimeter stones, and 10 percent 600- to 3,000-millimeter boulders; neutral (pH 7.0); abrupt wavy boundary.

R—9 to 19 inches (23 to 48 centimeters); very strongly cemented sandstone.

Range in characteristics

The depth to bedrock is 8 to 19 inches (20 to 48 centimeters). The percentage of the surface covered by rock fragments is as follows: 20 to 40 percent by 2- to 75-millimeter gravel, 5 to 15 percent by 75- to 250-millimeter cobbles, 10 to 30 percent by 250- to 600-millimeter stones, and 5 to 25 percent by 600- to 3,000-millimeter boulders consisting of sandstone.

A horizons:

Hue—10YR dry and moist

Value—4 to 7 dry and moist

Chroma—3 to 5 dry and moist

Texture of the fine-earth fraction—sandy loam

Content of clay—5 to 10 percent

Content of organic matter—0.1 to 1.0 percent

Reaction—neutral or slightly alkaline

Content of rock fragments—15 to 35 percent 2- to 75-millimeter gravel, 10 to 30 percent 75- to 250-millimeter cobbles, 5 to 15 percent 250- to 600-millimeter stones, and 5 to 15 percent 600- to 3,000-millimeter boulders

Bw horizon:

Hue—10YR dry and moist

Value—4 to 7 dry and moist

Chroma—3 to 5 dry and moist

Texture of the fine-earth fraction—sandy loam

Content of clay—5 to 10 percent

Content of organic matter—0.1 to 0.3 percent

Reaction—neutral or slightly acid

Content of rock fragments—15 to 35 percent 2- to 75-millimeter gravel, 10 to 30 percent 75- to 250-millimeter cobbles, 5 to 15 percent 250- to 600-millimeter stones, and 5 to 15 percent 600- to 3,000-millimeter boulders

LittleSignal Series

The LittleSignal series consists of deep, well drained soils that formed in residuum derived from sandstone and/or shale. These soils are on hillslopes. Slope is 15 to 75

percent. Little signal soils are classified as coarse-loamy, mixed, superactive, thermic Typic Calcigypsisids.

Typical pedon

In map unit 432, Little signal-Badlands-Cochora association, 15 to 75 percent slopes; Kern County, California; about 33 miles (53.1 kilometers) southwest of downtown Bakersfield, in the Temblor Range; 1,900 feet (579.1 meters) east and 1,950 feet (594.4 meters) south of the northwest corner of sec. 3, T. 11 N., R. 24 W.; San Bernardino Base and Meridian; latitude 35 degrees 04 minutes 17 seconds north and longitude 119 degrees 25 minutes 51 seconds west; USGS Maricopa, California, Quadrangle, NAD83.

A1—0 to 3 inches (0 to 8 centimeters); pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; moderate coarse and medium subangular blocky structure; slightly hard, friable, slightly sticky and plastic; common very fine roots; few very fine interstitial pores; electrical conductivity of 2.6 decisiemens per meter; calcium carbonate equivalent of 5; violently effervescent; carbonates disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

A2—3 to 11 inches (8 to 28 centimeters); pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; moderate medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine interstitial pores; electrical conductivity of 1.7 decisiemens per meter; calcium carbonate equivalent of 7; violently effervescent; carbonates disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

Bw—11 to 20 inches (28 to 51 centimeters); light brownish gray (10YR 6/2) sandy loam, brown (10YR 4/3) moist; weak medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial pores; electrical conductivity of 2.2 decisiemens per meter; calcium carbonate equivalent of 7; gypsum content of 9 percent; violently effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear smooth boundary.

Bk1—20 to 25 inches (51 to 64 centimeters); pale yellow (2.5Y 8/2) silt loam, pale yellow (2.5Y 7/3) moist; weak coarse and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine interstitial pores; electrical conductivity of 2.3 decisiemens per meter; calcium carbonate equivalent of 6; gypsum content of 31 percent; violently effervescent; carbonates disseminated and segregated as few fine coatings on the underside of pebbles; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear smooth boundary.

Bk2—25 to 35 inches (64 to 89 centimeters); pale yellow (2.5Y 8/2) silt loam, pale yellow (2.5Y 7/3) moist; weak coarse and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine interstitial pores; electrical conductivity of 3.0 decisiemens per meter; calcium carbonate equivalent of 5; gypsum content of 6 percent; violently effervescent; carbonates disseminated and segregated as few fine coatings on the underside of pebbles; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); gradual wavy boundary.

2Bky—35 to 52 inches (89 to 132 centimeters); pale yellow (5Y 8/2) extremely paragravelly silt loam, light olive gray (5Y 6/2) moist; massive; soft, friable, sticky and plastic; many very fine and few fine roots; common very fine and few fine tubular pores; electrical conductivity of 6.7 decisiemens per meter; sodium adsorption ratio of 10; calcium carbonate equivalent of 1; violently effervescent; carbonates disseminated and segregated as few fine threads; common fine filaments of gypsum; gypsum content of 26 percent; 70 percent 2- to 75-millimeter paragravel; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Cr—52 to 60 inches (132 to 152 centimeters); weakly cemented, highly fractured shale.

Range in characteristics

The depth to paralithic contact is 40 to 60 inches (102 to 152 centimeters).

A horizons:

Hue—10YR dry and moist
Value—5 to 7 dry and 4 or 5 moist
Chroma—2 or 3 dry and 3 or 4 moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—10 to 20 percent
Content of organic matter—0.75 to 4 percent
Calcium carbonate equivalent—3 to 10 percent
Content of gypsum—0 to 10 percent
Reaction—slightly alkaline or moderately alkaline

Bw and Bk horizons:

Hue—10YR or 2.5Y dry and moist
Value—6 to 8 dry and 4 to 7 moist
Chroma—2 or 3 dry and 2 to 4 moist
Texture of the fine-earth fraction—sandy loam, loam, or silt loam
Content of clay—2 to 20 percent
Content of organic matter—0.2 to 1 percent
Calcium carbonate equivalent—3 to 10 percent
Content of gypsum—5 to 40 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 14 percent 2- to 75-millimeter gravel

2Bky horizon:

Hue—10YR, 2.5Y, or 5Y dry and moist
Value—7 or 8 dry and 4 to 7 moist
Chroma—2 or 3 dry and 2 to 4 moist
Texture of the fine-earth fraction—sandy loam, loam, or silt loam
Content of clay—2 to 10 percent
Content of organic matter—0.1 to 0.3 percent
Calcium carbonate equivalent—1 to 10 percent
Content of gypsum—10 to 40 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—60 to 80 percent 2- to 75-millimeter paragravel

Lokern Series

The Lokern series consists of very deep, somewhat poorly drained soils that formed in lacustrine deposits over alluvium derived from rocks of mixed mineralogy. These soils are on basin floors. Slope is 0 to 1 percent. Lokern soils are classified as fine, smectitic, nonacid, thermic Vertic Torrifuvents.

Typical pedon

In map unit 220, Lokern clay, drained, 0 to 1 percent slopes; Kern County, California; about 17 miles (27.4 kilometers) south of downtown Bakersfield; about 500 feet (152.4 meters) southwest of Interstate 5; about 2,100 feet (640.1 meters) south and 1,500 feet (457.2 meters) west of the northeast corner of sec. 21, T. 32 S., R. 27 E.; Mount Diablo Base and Meridian; latitude 35 degrees 07 minutes 53 seconds north and longitude 119 degrees 04 minutes 45 seconds west; USGS Conner, California, Quadrangle, NAD83.

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- Ap1—0 to 11 inches (0 to 28 centimeters); grayish brown (10YR 5/2) clay, very dark gray (10YR 3/2) moist; moderate fine subangular blocky structure; hard, friable, sticky and very plastic; few very fine roots; common very fine and fine tubular pores; moderately alkaline (pH 8.0); clear smooth boundary.
- Ap2—11 to 24 inches (28 to 61 centimeters); grayish brown (10YR 5/2) silty clay, very dark gray (10YR 3/2) moist; strong coarse subangular blocky structure; very hard, firm, sticky and very plastic; common very fine and few fine and medium roots; common very fine and few fine and medium tubular pores; moderately alkaline (pH 8.2); clear smooth boundary.
- A—24 to 28 inches (61 to 71 centimeters); grayish brown (10YR 5/2) clay, very dark gray (10YR 3/2) moist; weak coarse subangular blocky structure; very hard, firm, sticky and very plastic; common very fine and few fine roots; common very fine and few fine tubular pores; slightly acid (pH 6.5); abrupt smooth boundary.
- 2Cy1—28 to 33 inches (71 to 84 centimeters); light brownish gray (2.5Y 6/2) clay, very dark grayish brown (2.5Y 3/2) moist; massive; very hard, firm, sticky and very plastic; common very fine roots; common very fine and few fine tubular pores; few fine soft masses and threads of gypsum; few fine prominent strong brown (7.5YR 5/6) redoximorphic features, strong brown (7.5YR 4/6) moist; moderately acid (pH 5.8); abrupt smooth boundary.
- 2Cy2—33 to 42 inches (84 to 107 centimeters); light brownish gray (2.5Y 6/2) clay, very dark grayish brown (2.5Y 3/2) moist; moderate coarse angular blocky structure parting to moderate medium angular blocky; hard, friable, sticky and very plastic; common very fine roots; few very fine and fine tubular pores; many fine, medium, and coarse prominent strong brown (7.5YR 5/6) redoximorphic features, strong brown (7.5YR 4/6) moist; common fine and medium soft masses and threads of gypsum crystals; moderately acid (pH 5.6); clear smooth boundary.
- 2Cy3—42 to 53 inches (107 to 135 centimeters); light brownish gray (2.5Y 6/2) clay, dark grayish brown (2.5Y 4/2) moist; weak coarse angular blocky structure parting to weak medium angular blocky; very hard, firm, sticky and very plastic; few very fine roots; few very fine and fine tubular pores; many fine, medium, and coarse prominent strong brown (7.5YR 5/6) redoximorphic features, strong brown (7.5YR 4/6) moist; common fine and medium soft masses and threads of gypsum crystals; moderately acid (pH 5.6); abrupt smooth boundary.
- 2Cy4—53 to 60 inches (107 to 152 centimeters); light brownish gray (2.5Y 6/2) clay, dark grayish brown (2.5Y 4/2) moist; moderate coarse angular blocky structure parting to moderate very thin platy; very hard, firm, sticky and very plastic; few very fine roots; common very fine and few fine tubular pores; many fine, medium, and coarse prominent strong brown (7.5YR 5/6) redoximorphic features, strong brown (7.5YR 4/6) moist; common fine and medium soft masses and filaments of gypsum crystals; slightly acid (pH 6.5); abrupt smooth boundary.
- 2C—60 to 67 inches (152 to 170 centimeters); olive gray (5Y 5/2) clay, olive gray (5Y 4/2) moist; few fine prominent yellowish brown (10YR 5/4) redoximorphic features, dark yellowish brown (10YR 4/4) moist; moderate coarse angular blocky structure parting to moderate medium angular blocky; very hard, firm, sticky and very plastic; few very fine roots; few very fine and fine tubular pores; slightly acid (pH 6.5).

Range in characteristics

The content of clay is 35 to 55 percent. The content of organic matter decreases irregularly with increasing depth.

A horizons:

Hue—10YR dry and moist

Value—4 or 5 dry and 2 or 3 moist

Chroma—1 or 2 dry and moist

Texture of the fine-earth fraction—clay loam, silty clay loam, silty clay, or clay
Content of clay—35 to 55 percent
Content of organic matter—0.75 to 3 percent
Electrical conductivity—1 to 8 decisiemens per meter
Sodium adsorption ratio—3 to 20
Calcium carbonate equivalent—0 to 1 percent
Content of gypsum—0 to 2 percent
Reaction—slightly acid to moderately alkaline

2C horizons:

Hue—10YR, 2.5Y, or 5Y dry and moist
Value—4 to 7 dry and 2 to 6 moist
Chroma—1 or 2 dry and 1 to 3 moist
Texture of the fine-earth fraction—clay loam, silty clay loam, silty clay, or clay
Content of clay—35 to 55 percent
Content of organic matter—0.1 to 1.8 percent
Electrical conductivity—1 to 8 decisiemens per meter
Sodium adsorption ratio—2 to 15
Calcium carbonate equivalent—0 to 1 percent
Content of gypsum—1 to 5 percent
Reaction—moderately acid to moderately alkaline

Los Gatos Series

The Los Gatos series consists of moderately deep, well drained soils that formed in residuum derived from sandstone and/or shale. These soils are on mountain slopes. Slope is 30 to 75 percent. Los Gatos soils are classified as fine-loamy, mixed, active, mesic Typic Argixerolls.

Typical pedon

In map unit 700, Xerolls, loamy-skeletal-Los Gatos complex, 30 to 75 percent slopes; Kern County, California; in the San Emidio Mountains, about 22.5 miles (36.2 kilometers) southeast of Taft; 100 feet (30.1 meters) north and 2,360 feet (719.3 meters) west of the southeast corner of sec. 36, T. 10 N., R. 22 W.; San Bernardino Base and Meridian; latitude 34 degrees 54 minutes 08 seconds north and longitude 119 degrees 10 minutes 42 seconds west; USGS Eagle Rest Peak, California, Quadrangle, NAD83.

- Oi—0 to 1 inch (0 to 3 centimeters); litter of leaves and twigs; abrupt smooth boundary.
- A—1 to 6 inches (3 to 15 centimeters); brown (10YR 4/3) loam, black (10YR 2/1) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and medium roots; many very fine and fine interstitial and common fine tubular pores; 10 percent 2- to 75-millimeter gravel; moderately acid (pH 5.9); clear smooth boundary.
- Bt1—6 to 10 inches (15 to 25 centimeters); brown (10YR 4/3) loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure parting to moderate fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; many medium and coarse and few fine roots; many fine and medium and few coarse tubular pores; common faint clay films along surfaces of pores; 10 percent 2- to 75-millimeter gravel; moderately acid (pH 5.9); clear smooth boundary.
- Bt2—10 to 16 inches (25 to 41 centimeters); dark yellowish brown (10YR 4/4) loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, very friable, moderately sticky and slightly plastic; common medium and few fine and coarse roots; common medium and few fine and coarse tubular pores;

- common faint clay films on faces of peds and along surfaces of pores; 10 percent 2- to 75-millimeter gravel; moderately acid (pH 5.9); abrupt smooth boundary.
- Bt3—16 to 24 inches (41 to 61 centimeters); yellow (10YR 7/6) very gravelly clay loam, yellow (10YR 7/8) moist; moderate medium angular blocky structure; hard, very friable, moderately sticky and moderately plastic; few fine, medium, and coarse roots; common medium and coarse and few fine tubular pores; common distinct clay films on faces of peds and along surfaces of pores; 25 percent 2- to 75-millimeter gravel and 5 percent 75- to 250-millimeter cobbles; moderately acid (pH 5.9); abrupt smooth boundary.
- Bt4—24 to 29 inches (61 to 74 centimeters); yellow (10YR 7/7) extremely gravelly clay loam, yellow (10YR 7/8) moist; massive; hard, very friable, moderately sticky and moderately plastic; few fine and common coarse roots; common fine and few medium tubular pores; common distinct clay films along surfaces of pores; 50 percent 2- to 75-millimeter gravel and 15 percent 75- to 250-millimeter cobbles; moderately acid (pH 5.6); abrupt wavy boundary.
- R—29 to 39 inches (74 to 99 centimeters); very strongly cemented, slightly fractured sandstone.

Range in characteristics

The percentage of the surface covered by rock fragments is as follows: 0 to 15 percent by 2- to 75-millimeter gravel and 0 to 15 percent by 75- to 250-millimeter cobbles.

A horizon:

- Hue—10YR dry and moist
- Value—4 or 5 dry and 2 or 3 moist
- Chroma—2 or 3 dry and 1 or 2 moist
- Texture of the fine-earth fraction—sandy loam or loam
- Content of clay—5 to 15 percent
- Content of organic matter—1.0 to 3.0 percent
- Reaction—moderately acid or slightly acid
- Content of rock fragments—5 to 15 percent 2- to 75-millimeter gravel

Bt horizons:

- Hue—10YR, 7.5YR, or 5Y dry and moist
- Value—4 to 7 dry and 3 to 7 moist
- Chroma—2 to 8 dry and moist
- Texture of the fine-earth fraction—sandy loam, loam, sandy clay loam, or clay loam
- Content of clay—5 to 35 percent
- Content of organic matter—0.05 to 1.25 percent
- Reaction—moderately acid or slightly acid
- Content of rock fragments—5 to 60 percent 2- to 75-millimeter gravel and 0 to 20 percent 75- to 250-millimeter cobbles

Loslobos Series

The Loslobos series consists of very deep, well drained soils that formed in unconsolidated alluvium derived from rocks of mixed mineralogy. These soils are on hillslopes. Slope is 5 to 100 percent. Loslobos soils are classified as coarse-loamy, mixed, superactive, thermic Pachic Calcixerolls.

Typical pedon

In map unit 400, Loslobos-Xeric Torriorthents, very gravelly-Badlands association, 30 to 50 percent slopes; Kern County, California; on Wheeler Ridge, about 24 miles (38.6 kilometers) east-southeast of Taft; about 2,050 feet east and 600 feet south of

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the northwest corner of sec. 30, T. 11 N., R. 20 W.; San Bernardino Base and Meridian; latitude 35 degrees 01 minute 06 seconds north and longitude 119 degrees 03 minutes 30 seconds west; USGS Coal Oil Canyon, California, Quadrangle, NAD83.

- A1—0 to 2 inches (0 to 5 centimeters); brown (10YR 5/3) sandy loam, very dark grayish brown (10YR 3/2) moist; moderate thick platy structure parting moderate medium platy; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; calcium carbonate equivalent of 3 percent; strongly effervescent; disseminated carbonates; many animal burrows averaging 18 inches (46 centimeters) apart and 1 to 3 inches (3 to 8 centimeters) in diameter; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 7.9); abrupt smooth boundary.
- A2—2 to 14 inches (5 to 36 centimeters); grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine and fine and few medium tubular pores; calcium carbonate equivalent of 4 percent; strongly effervescent; carbonates disseminated; many animal burrows and krotovinas averaging 18 inches (46 centimeters) apart and 1 to 3 inches (3 to 8 centimeters) in diameter; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); clear smooth boundary.
- A3—14 to 25 inches (36 to 64 centimeters); brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine, common fine, and few medium tubular pores; calcium carbonate equivalent of 4 percent; violently effervescent; carbonates disseminated; many animal burrows and krotovinas averaging 18 inches (46 centimeters) apart and 1 to 3 inches (3 to 8 centimeters) in diameter; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.1); abrupt irregular boundary.
- Bk1—25 to 41 inches (64 to 104 centimeters); pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; brown sandy loam (10YR 5/3) krotovinas, dark brown (10YR 3/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine and few fine and medium tubular pores; calcium carbonate equivalent of 5 percent; violently effervescent; carbonates disseminated and segregated as common fine soft threads; many animal burrows and krotovinas averaging 18 inches (46 centimeters) apart and 1 to 3 inches (3 to 8 centimeters) in diameter; 20 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); abrupt wavy boundary.
- Bk2—41 to 54 inches (104 to 137 centimeters); pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and few fine and medium tubular pores; calcium carbonate equivalent of 5 percent; violently effervescent; carbonates disseminated and segregated as few fine soft threads; 20 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); abrupt wavy boundary.
- Bk3—54 to 60 inches (137 to 152 centimeters); pale yellow (2.5Y 7/4) gravelly sandy loam, light olive brown (2.5Y 5/4) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; common very fine and few fine and medium tubular pores; calcium carbonate equivalent of 5 percent; violently effervescent; carbonates disseminated and segregated as few fine soft threads; moderately alkaline (pH 8.0).

Range in characteristics

About 0 to 20 percent of the surface is covered by 2- to 75-millimeter gravel consisting of mixed sedimentary rock.

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A horizons:

Hue—10YR dry and moist
Value—4 or 5 dry and 2 or 3 moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—coarse sandy loam, sandy loam, or loam
Content of clay—6 to 18 percent
Content of organic matter—1 to 3 percent
Calcium carbonate equivalent—1 to 6 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

Bk horizons:

Hue—10YR or 2.5Y dry and moist
Value—5 to 7 dry and 3 to 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—coarse sand, coarse sandy loam, sandy loam, or loam
Content of clay—6 to 18 percent
Content of organic matter—0.1 to 0.7 percent
Calcium carbonate equivalent—5 to 8 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 40 percent 2- to 75-millimeter gravel

Milagro Series

The Milagro series consists of very deep, well drained soils that formed in alluvium derived dominantly from granitoid rock. These soils are on alluvial fans and fan skirts. Slope is 0 to 1 percent. Milagro soils are classified as coarse-loamy, mixed, superactive, nonacid, thermic Typic Torrifluvents.

Typical pedon

In map unit 231, Milagro fine sandy loam, 0 to 1 percent slopes; Kern County, California; about 10 miles (16.1 kilometers) south-southeast of downtown Bakersfield; 1.25 miles (2.0 kilometers) south of State Highway 119 and 1,900 feet (579.1 meters) west of Ashe Road; about 2,550 feet (777.2 meters) south and 2,430 feet (740.7 meters) west of the northeast corner of sec. 9, T. 31 S., R. 27 E.; Mount Diablo Base and Meridian; latitude 35 degrees 14 minutes 44 seconds north and longitude 119 degrees 04 minutes 57 seconds west; USGS Conner, California, Quadrangle, NAD83.

- Ap—0 to 8 inches (0 to 20 centimeters); grayish brown (10YR 5/2) fine sandy loam, dark brown (10YR 3/3) moist; moderate coarse cloddy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine, fine, and medium tubular and common very fine interstitial pores; slightly alkaline (pH 7.8); abrupt smooth boundary.
- A—8 to 14 inches (20 to 36 centimeters); brown (10YR 5/3) fine sandy loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine interstitial and very fine tubular pores; neutral (pH 6.8); abrupt smooth boundary.
- C1—14 to 19 inches (36 to 48 centimeters); grayish brown (10YR 5/2) fine sandy loam, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine interstitial and few fine tubular pores; neutral (pH 6.8); abrupt smooth boundary.
- C2—19 to 27 inches (48 to 69 centimeters); light brownish gray (10YR 6/2) loamy fine sand, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky

and nonplastic; few very fine roots; few very fine interstitial pores; slightly alkaline (pH 7.8); abrupt smooth boundary.

- C3—27 to 32 inches (69 to 81 centimeters); light brownish gray (10YR 6/2), finely stratified silt loam, dark grayish brown (10YR 4/2) moist; common brownish yellow (10YR 6/8) fine mottles, dark yellowish brown (10YR 4/6) moist; strong very thin platy rock structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine and few fine tubular pores; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.
- C4—32 to 51 inches (81 to 130 centimeters); light brownish gray (2.5Y 6/2) sandy loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine and fine interstitial and few fine tubular pores; slightly alkaline (pH 7.8); gradual smooth boundary.
- C5—51 to 60 inches (130 to 152 centimeters); grayish brown (2.5Y 5/2) sandy loam, olive brown (2.5Y 4/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine interstitial and few very fine and fine tubular pores; slightly alkaline (pH 7.8).

Range in characteristics

The content of organic matter decreases irregularly with increasing depth. Electrical conductivity is 0.5 to 4 decisiemens per meter. The sodium absorption ratio is 1 to 6.

Ap and A horizons:

Hue—10YR or 2.5Y dry and moist

Value—5 or 6 dry and 3 or 4 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—loamy sand, sandy loam, or fine sandy loam

Content of clay—5 to 18 percent

Content of organic matter—0.3 to 1 percent

Reaction—slightly acid to moderately alkaline

C horizons:

Hue—10YR or 2.5Y dry and moist

Value—5 to 7 dry and 2 to 5 moist

Chroma—1 to 4 dry and moist

Texture of the fine-earth fraction—stratified loamy fine sand to silty clay loam

Content of clay—5 to 28 percent

Content of organic matter—0.01 to 0.6 percent

Reaction—slightly acid to moderately alkaline

Milham Series

The Milham series consists of very deep, well drained soils that formed in alluvium derived dominantly from granitoid and sedimentary rocks. These soils are on alluvial fans. Slope is 0 to 5 percent. Milham soils are classified as fine-loamy, mixed, superactive, thermic Typic Haplargids.

Typical pedon

In map unit 680, Milham sandy loam, 0 to 5 percent slopes; Kern County, California; about 2 miles (3.2 kilometers) northeast of Taft; about 1,650 feet (502.9 meters) north and 380 feet (115.8 meters) west of the southeast corner of sec. 7, T. 32 S., R. 24 E.; Mount Diablo Base and Meridian; latitude 35 degrees 09 minutes 22 seconds north and longitude 119 degrees 25 minutes 51 seconds west; USGS Taft, California, Quadrangle, NAD83.

A—0 to 5 inches (0 to 13 centimeters); very pale brown (10YR 7/3) sandy loam, brown (10YR 5/3) moist; strong coarse subangular blocky structure parting to strong

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medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular and few very fine interstitial pores; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); abrupt wavy boundary.

- BA1—5 to 12 inches (13 to 30 centimeters); very pale brown (10YR 7/4) sandy loam, yellowish brown (10YR 5/4) moist; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular and few very fine interstitial pores; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear wavy boundary.
- BA2—12 to 18 inches (30 to 46 centimeters); very pale brown (10YR 7/4) sandy loam, yellowish brown (10YR 5/4) moist; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular and common very fine interstitial pores; strongly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.4); abrupt wavy boundary.
- Btk1—18 to 24 inches (46 to 61 centimeters); very pale brown (10YR 7/4) sandy clay loam, yellowish brown (10YR 5/6) moist; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular and few very fine interstitial pores; few waxlike bridges between mineral grains; violently effervescent; carbonates disseminated and segregated as common fine threads; 10 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.6); clear wavy boundary.
- Btk2—24 to 33 inches (61 to 84 centimeters); very pale brown (10YR 7/4) sandy clay loam, yellowish brown (10YR 5/6) moist; weak medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular and few very fine interstitial pores; few thin colloids in bridges between mineral grains and few thin clay films on faces of peds; violently effervescent; carbonates disseminated and segregated as common fine filaments; 10 percent 2- to 75-millimeters gravel; strongly alkaline (pH 8.6); clear wavy boundary.
- Btk3—33 to 43 inches (84 to 109 centimeters); very pale brown (10YR 7/4) coarse sandy loam, yellowish brown (10YR 5/6) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular and few very fine interstitial pores; few waxlike bridges between mineral grains; slightly effervescent disseminated carbonates and strongly effervescent carbonates segregated as few medium threads; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); clear wavy boundary.
- Btk4—43 to 55 inches (109 to 140 centimeters); very pale brown (10YR 7/4) sandy clay loam, dark yellowish brown (10YR 4/6) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine interstitial pores; violently effervescent; carbonates segregated in few fine filaments; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); clear smooth boundary.
- 2C—55 to 60 inches (140 to 152 centimeters); very pale brown (10YR 7/4) gravelly loamy sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine tubular and few very fine interstitial pores; few thin pressure faces; 15 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.4).

Range in characteristics

About 0 to 20 percent of the surface is covered by 2- to 75-millimeter gravel consisting of granitoid and/or sedimentary rock.

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A horizon:

Hue—10YR dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—coarse sandy loam or sandy loam
Content of clay—8 to 20 percent
Content of organic matter—0.3 to 0.75 percent
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

BA horizons:

Hue—10YR dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—coarse sandy loam or sandy loam
Content of clay—8 to 20 percent
Content of organic matter—0.1 to 0.5 percent
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

Btk horizons:

Hue—10YR dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—3 to 6 dry and moist
Texture of the fine-earth fraction—coarse sand, coarse sandy loam, sandy loam,
or sandy clay loam
Content of clay—10 to 30 percent
Content of organic matter—0.1 to 0.5 percent
Electrical conductivity—2 to 8 decisiemens per meter
Sodium adsorption ratio—5 to 14
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

2C horizon:

Hue—10YR dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—3 to 6 dry and moist
Texture of the fine-earth fraction—loamy sand or sandy loam
Content of clay—5 to 10 percent
Content of organic matter—0.05 to 0.2 percent
Electrical conductivity—2 to 8 decisiemens per meter
Sodium adsorption ratio—5 to 14
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel

Millox Series

The Millox series consists of very deep, moderately well drained soils that formed in lacustrine deposits over alluvium derived from rocks of mixed mineralogy. These soils are on basin floors. Slope is 0 to 1 percent. Millox soils are classified as fine, smectitic, thermic Sodic Haplotorrerts.

Typical pedon

In map unit 240, Millox clay loam, partially drained, 0 to 1 percent slopes; Kern County, California; about 16 miles (25.8 kilometers) southwest of downtown Bakersfield; 95 feet (29.0 meters) west of a dirt road; 1,760 feet (536.5 meters) west

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and 700 feet (213.4 meters) north of the southeast corner of sec. 13, T. 31 S., R. 25 E.; Mount Diablo Base and Meridian; latitude 35 degrees 13 minutes 31 seconds north and longitude 119 degrees 14 minutes 28 seconds west; USGS Millux, California, Quadrangle, NAD83.

Ap—0 to 5 inches (0 to 13 centimeters); gray (5Y 6/1) clay loam, dark olive gray (5Y 3/2) moist; moderate fine, medium, and coarse subangular blocky structure; very hard, very firm, sticky and very plastic; few very fine and fine roots; many very fine tubular pores in clods; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

Bw—5 to 19 inches (13 to 48 centimeters); gray (5Y 6/1) clay, dark olive gray (5Y 3/2) moist; weak coarse prismatic structure parting to strong medium angular blocky; very hard, firm, sticky and very plastic; few very fine and fine roots; few very fine and fine tubular pores; strongly effervescent; carbonates disseminated and segregated as few fine soft masses and few fine weakly cemented concretions; strongly alkaline (pH 8.6); gradual smooth boundary.

Bkss—19 to 35 inches (48 to 89 centimeters); gray (5Y 6/1) clay, dark olive gray (5Y 3/2) moist; weak coarse prismatic structure parting to moderate fine angular blocky; very hard, firm, very sticky and very plastic; few very fine roots; few very fine and fine tubular pores; many intersecting slickensides; slightly effervescent; carbonates disseminated and segregated as many fine soft masses and filaments and many fine weakly cemented concretions; very strongly alkaline (pH 9.2); gradual smooth boundary.

Bknz—35 to 53 inches (89 to 135 centimeters); light brownish gray (2.5Y 6/2) clay, dark grayish brown (2.5Y 4/2) moist; weak medium prismatic structure parting to moderate fine angular blocky; very hard, firm, sticky and very plastic; few very fine roots; few very fine and fine tubular pores; slightly effervescent; carbonates disseminated and segregated as few fine soft masses and few weakly cemented concretions; very strongly alkaline (pH 9.1); clear smooth boundary.

2Btknz—53 to 60 inches (135 to 152 centimeters); light gray (2.5Y 7/2) sandy clay loam, grayish brown (2.5Y 5/2) moist; weak coarse prismatic structure; very hard, friable, sticky and plastic; no roots; few very fine tubular pores; common gray (5Y 6/1) thin and moderately thick clay films on faces of peds and in pores, dark gray (5Y 4/1) moist; slightly effervescent; carbonates disseminated and segregated as common fine soft masses and common fine weakly cemented concretions; very strongly alkaline (pH 9.6); clear smooth boundary.

3Bnz—60 to 65 inches (152 to 165 centimeters); light gray (2.5Y 7/2) fine sandy loam, olive gray (2.5Y 5/2) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine tubular and common very fine interstitial pores; noneffervescent; strongly alkaline (pH 9.0).

Range in characteristics

In nonirrigated areas, cracks 1 to 5 centimeters wide extend from the surface or the base of the Ap horizon into the upper part of the Bkss horizon during most of the year.

A horizon:

Hue—2.5Y or 5Y dry and moist

Value—5 or 6 dry and 3 moist

Chroma—1 or 2 dry and moist

Texture of the fine-earth fraction—clay loam or clay

Content of clay—30 to 50 percent

Content of organic matter—1 to 1.5 percent

Electrical conductivity—0.5 to 3 decisiemens per meter

Sodium adsorption ratio—2 to 30

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Calcium carbonate equivalent—2 to 5 percent
Reaction—moderately alkaline to very strongly alkaline

Bw horizon:

Hue—2.5Y or 5Y dry and moist
Value—6 dry and 3 moist
Chroma—1 or 2 dry and moist
Texture of the fine-earth fraction—clay loam or clay
Content of clay—30 to 50 percent
Content of organic matter—0.4 to 1 percent
Electrical conductivity—0.5 to 5 decisiemens per meter
Sodium adsorption ratio—2 to 35
Calcium carbonate equivalent—2 to 5 percent
Reaction—moderately alkaline to very strongly alkaline

Bkss horizon:

Hue—2.5Y or 5Y dry and moist
Value—6 or 7 dry and 3 to 5 moist
Chroma—1 to 3 dry and moist
Texture of the fine-earth fraction—clay loam or clay
Content of clay—30 to 50 percent
Content of organic matter—0.4 to 1 percent
Electrical conductivity—1 to 16 decisiemens per meter
Sodium adsorption ratio—2 to 60
Calcium carbonate equivalent—4 to 14 percent
Reaction—moderately alkaline to very strongly alkaline

Bknz horizon:

Hue—2.5Y or 5Y dry and moist
Value—6 or 7 dry and 3 to 5 moist
Chroma—1 to 3 dry and moist
Texture of the fine-earth fraction—loam, silt loam, clay loam, or clay
Content of clay—26 to 50 percent
Content of organic matter—0.2 to 0.6 percent
Electrical conductivity—1 to 16 decisiemens per meter
Sodium adsorption ratio—15 to 100
Calcium carbonate equivalent—4 to 14 percent
Reaction—moderately alkaline to very strongly alkaline

2Btknz horizon:

Hue—2.5Y or 5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—loam, clay loam, or sandy clay loam
Content of clay—15 to 35 percent
Content of organic matter—0.2 to 0.6 percent
Electrical conductivity—2 to 16 decisiemens per meter
Sodium adsorption ratio—15 to 150
Calcium carbonate equivalent—4 to 14 percent
Reaction—moderately alkaline to very strongly alkaline

3Bnz horizon:

Hue—2.5Y or 5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—fine sandy loam, sandy loam, or loam
Content of clay—15 to 25 percent

Content of organic matter—0.1 to 0.2 percent
Electrical conductivity—2 to 16 decisiemens per meter
Sodium adsorption ratio—15 to 150
Calcium carbonate equivalent—4 to 14 percent
Reaction—moderately alkaline to very strongly alkaline

Oldriver Series

The Oldriver series consists of very deep, somewhat poorly drained soils that formed in alluvium derived dominantly from granitoid rock. These soils are now artificially drained. They are on flood plains. Slope is 0 to 1 percent. Oldriver soils are classified as fine-loamy, mixed, superactive, thermic Torrifluventic Haploxerolls.

Typical pedon

In map unit 251, Oldriver loam, partially drained, sodic, 0 to 1 percent slopes; about 14 miles (22.5 kilometers) south of downtown Bakersfield; about 1 mile (1.6 kilometers) east of Union Avenue and 2.5 miles (4.0 kilometers) south of Bear Mountain Boulevard; 2,170 feet (661.4 meters) north and 250 feet (76.2 meters) east of the southwest corner of sec. 4, T. 32 S., R. 28 E.; Mount Diablo Base and Meridian; latitude 35 degrees 10 minutes 15 seconds north and longitude 118 degrees 59 minutes 02 seconds west; USGS Weed Patch, California, Quadrangle, NAD83.

- Ap—0 to 11 inches (0 to 28 centimeters); grayish brown (2.5Y 5/2) loam, very dark grayish brown (2.5Y 3/2) moist; moderate medium subangular blocky structure parting to moderate medium and fine granular; slightly hard, friable, moderately sticky and moderately plastic; common very fine and few fine and medium roots; common very fine interstitial pores; slightly alkaline (pH 7.8); abrupt smooth boundary.
- C1—11 to 16 inches (28 to 41 centimeters); light brownish gray (2.5Y 6/2) fine sandy loam, dark grayish brown (2.5Y 4/2) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; few very fine tubular pores; common fine prominent dark yellowish brown (10YR 4/6) redoximorphic features, dark yellowish brown (10YR 3/6) moist; strongly alkaline (pH 8.7); abrupt smooth boundary.
- C2—16 to 22 inches (41 to 56 centimeters); light brownish gray (2.5Y 6/2) and dark grayish brown (2.5Y 4/2), finely stratified (0.5- to 2-millimeter strata) soil with a mixed texture of silt loam and very fine sandy loam, dark grayish brown (2.5Y 4/2) and very dark grayish brown (2.5Y 3/2) moist; massive with strong very thin and thin platy rock structure; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; common fine prominent dark yellowish brown (10YR 4/6) redoximorphic features, dark yellowish brown (10YR 3/6) moist; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.
- C3—22 to 30 inches (56 to 76 centimeters); light olive gray (5Y 6/2) clay, dark olive gray (5Y 3/2) moist; moderate medium subangular blocky structure; very hard, firm, moderately sticky and very plastic; few very fine and fine roots; common very fine tubular pores; common fine and medium prominent light olive brown (2.5Y 5/4) redoximorphic features, dark grayish brown (2.5Y 4/2) and olive brown (2.5Y 4/4) moist; strongly alkaline (pH 8.6); abrupt smooth boundary.
- C4—30 to 39 inches (76 to 99 centimeters); light brownish gray (2.5Y 6/2) fine sandy loam, dark grayish brown (2.5Y 4/2) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; common medium prominent and distinct yellowish brown (10YR 5/4) and pale olive (5Y 6/3) redoximorphic features, dark grayish brown (2.5Y 4/2) and olive (5Y 4/3) moist;

strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

C5—39 to 49 inches (99 to 124 centimeters); light brownish gray (2.5Y 6/2) fine sandy loam, dark grayish brown (2.5Y 4/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine tubular pores; many medium and coarse prominent yellowish brown (10YR 5/4) redoximorphic features, dark yellowish brown (10YR 4/4) moist; many fine prominent redoximorphic features that are very dark gray (5Y 3/1) and dark olive gray (5Y 3/2) when the soil is moist and that disappear as the soil dries; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

C6—49 to 63 inches (124 to 160 centimeters); light yellowish brown (2.5Y 6/4) silty clay, olive brown (2.5Y 4/4) moist; a few plates of micaceous sand less than 1 millimeter thick; massive; very hard, firm, very sticky and very plastic; common very fine tubular pores; common medium distinct yellowish brown (10YR 5/4) redoximorphic features, dark yellowish brown (10YR 4/4) moist; common olive gray (5Y 4/2) and few very dark gray (5Y 3/1) fine and medium prominent redoximorphic features that are evident the soil is moist and disappear as the soil dries; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.0).

Range in characteristics

The Torrifluventic subgroup is characterized by a well defined irregular decrease in content of organic carbon with increasing depth.

Ap horizon:

Hue—10YR or 2.5Y dry and moist

Value—4 or 5 dry and 2 or 3 moist

Chroma—1 to 3 dry and moist

Texture of the fine-earth fraction—loam

Content of clay—18 to 27 percent

Content of organic matter—1 to 4 percent

Electrical conductivity—0.4 to 8 decisiemens per meter

Sodium adsorption ratio—2 to 15

Reaction—slightly alkaline or moderately alkaline

Content of rock fragments—0 to 3 percent 2- to 5-millimeter gravel

C horizons:

Hue—10YR, 2.5Y, or 5Y dry and moist

Value—4 to 6 dry and 3 or 4 moist

Chroma—1 to 4 dry and moist

Texture of the fine-earth fraction—stratified sandy loam to silty clay

Content of clay—6 to 50 percent

Content of organic matter—0.05 to 1.5 percent

Electrical conductivity—0.5 to 15 decisiemens per meter

Sodium adsorption ratio—2 to 30

Reaction—moderately alkaline or strongly alkaline

Content of rock fragments—0 to 3 percent 2- to 5-millimeter gravel

Padres Series

The Padres series consists of very deep, well drained soils that formed in alluvium derived from calcareous sedimentary rock. These soils are on alluvial fans or alluvial flats. Slope is 0 to 9 percent. Padres soils are classified as coarse-loamy, mixed, superactive, thermic Typic Calcixerepts.

Typical pedon

In the survey area of San Luis Obispo County, Carrizo Plain, map unit 180, Padres sandy loam, 2 to 9 percent slopes; about 10.1 miles (16.3 kilometers) southeast on Simmler-Soda Lake Road from its intersection with Soda Lake-San Diego Creek Road; about 1.5 miles (2.4 kilometers) southwest on a dirt road to just before a fenced trail planting enclosure; 150 feet (45.7 meters) south and 350 feet (106.7 meters) east of the northwest corner of sec. 19, T. 31 S., R. 21 E.; Mount Diablo Base and Meridian; latitude 35 degrees 13 minutes 08 seconds north and longitude 119 degrees 46 minutes 18 seconds west; USGS Painted Rock, California, Quadrangle, NAD83.

A1—0 to 3 inches (0 to 8 centimeters); light brownish gray (2.5Y 6/2) sandy loam, dark grayish brown (2.5Y 4/2) moist; weak thick platy structure; slightly hard, friable, nonsticky and slightly plastic; few very fine roots; few very fine tubular pores; strongly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel and 2 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2); clear smooth boundary.

A2—3 to 16 inches (8 to 41 centimeters); light gray (2.5Y 7/2) sandy loam, dark grayish brown (2.5Y 4/2) moist; massive; slightly hard, friable, nonsticky and slightly plastic; common very fine roots; few very fine tubular and interstitial pores; violently effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel and 2 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2); gradual wavy boundary.

2Bk—16 to 30 inches (41 to 76 centimeters); pale yellow (2.5Y 7/4) coarse sandy loam, light olive brown (2.5Y 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few very fine interstitial and few very fine and fine tubular pores; calcium carbonate equivalent of 5 percent; violently effervescent; carbonates disseminated and segregated as common fine threads; 30 percent 2- to 75-millimeter gravel and 2 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2); clear wavy boundary.

3Bk1—30 to 38 inches (76 to 97 centimeters); pale yellow (2.5Y 7/4) loam, light olive brown (2.5Y 5/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine tubular pores; calcium carbonate equivalent of 5 percent; violently effervescent; carbonates disseminated and segregated as common fine threads; 10 percent 2- to 75-millimeter gravel and 2 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2); gradual wavy boundary.

3Bk2—38 to 46 inches (97 to 117 centimeters); pale yellow (2.5Y 7/4) sandy loam, light olive brown (2.5Y 5/4) moist; massive; slightly hard, friable, nonsticky and slightly plastic; few very fine tubular pores; calcium carbonate equivalent of 5 percent; violently effervescent; carbonates disseminated and segregated as common fine threads; 10 percent 2- to 75-millimeter gravel and 2 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2); clear wavy boundary.

4Bk—46 to 62 inches (117 to 158 centimeters); light gray (2.5Y 7/2) gravelly coarse sandy loam, light olive brown (2.5Y 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine tubular and interstitial pores; calcium carbonate equivalent of 5 percent; violently effervescent; carbonates disseminated and segregated as few fine threads; 30 percent 2- to 75-millimeter gravel and 2 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2).

Range in characteristics

About 0 to 15 percent of the surface is covered by 2- to 75-millimeter gravel consisting of calcareous sedimentary rock.

A horizons:

Hue—2.5Y or 10YR dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam or fine sandy loam
Content of clay—8 to 18 percent
Content of organic matter—0.2 to 1 percent
Calcium carbonate equivalent—1 to 5 percent
Reaction—moderately alkaline
Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel and 0 to 3 percent 75- to 250-millimeter cobbles

2B, 3B, and 4B horizons:

Hue—2.5Y or 10YR dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—coarse sandy loam, sandy loam, fine sandy loam, or loam
Content of clay—8 to 18 percent
Content of organic matter—0.0 to 0.2 percent
Calcium carbonate equivalent—2 to 7 percent
Reaction—moderately alkaline
Content of rock fragments—0 to 35 percent 2- to 75-millimeter gravel and 0 to 3 percent 75- to 250-millimeter cobbles

Panoche Series

The Panoche series consists of very deep, well drained soils that formed in alluvium derived dominantly from granitoid rock. These soils are on alluvial fans. Slope is 0 to 1 percent. Panoche soils are classified as fine-loamy, mixed, superactive, thermic Typic Haplocambids.

Typical pedon

In map unit 260, Panoche loam, 0 to 1 percent slopes; Kern County, California; about 4 miles (6.4 kilometers) south of Lamont; about 570 feet (173.7 meters) north and 1,780 feet (542.5 meters) east of the southwest corner of sec. 19, T. 31 S., R. 28 E.; Mount Diablo Base and Meridian; latitude 35 degrees 12 minutes 37 seconds north and longitude 118 degrees 54 minutes 31 seconds west; USGS Weed Patch, California, Quadrangle, NAD83.

Ap—0 to 9 inches (0 to 23 centimeters); brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak coarse cloddy structure; hard, friable, slightly sticky and moderately plastic; few fine and very fine roots; common very fine tubular and few very fine interstitial pores; strongly effervescent; carbonates disseminated; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); gradual smooth boundary.

Bw—9 to 23 inches (23 to 58 centimeters); brown (10YR 5/3) loam, dark yellowish brown (10YR 3/4) moist; weak coarse subangular blocky structure; hard, friable, slightly sticky and moderately plastic; common very fine and few fine, medium, and coarse roots; common very fine interstitial and few very fine tubular pores; strongly effervescent; carbonates disseminated and segregated as few fine soft masses; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear wavy boundary.

Bk1—23 to 39 inches (58 to 99 centimeters); brown (10YR 5/3) loam, dark yellowish brown (10YR 3/4) moist; massive; slightly hard, friable, slightly sticky and moderately plastic; few very fine roots; common very fine tubular and interstitial pores; strongly effervescent; carbonates disseminated and segregated as common

fine threads; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); gradual wavy boundary.

Bk2—39 to 60 inches (99 to 152 centimeters); brown (10YR 5/3) loam, dark yellowish brown (10YR 3/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular and common very fine interstitial pores; strongly effervescent; carbonates disseminated and segregated as few fine threads; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0).

Range in characteristics

About 0 to 10 percent of the surface is covered by 2- to 75-millimeter gravel of mixed mineralogy. Some pedons are weakly stratified, whereas others are very uniform in texture.

A horizon:

Hue—10YR or 2.5Y dry and moist
Value—5 or 6 dry and 3 or 4 moist
Chroma—2 or 3 dry and 2 to 4 moist
Texture of the fine-earth fraction—loam
Content of clay—18 to 27 percent
Content of organic matter—0.6 to 1 percent
Calcium carbonate equivalent—0 to 2 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel

Bw horizon:

Hue—10YR or 2.5Y dry and moist
Value—5 or 6 dry and 3 or 4 moist
Chroma—3 or 4 dry and 2 to 4 moist
Texture of the fine-earth fraction—loam, clay loam, sandy clay loam, or silty clay loam
Content of clay—18 to 35 percent
Content of organic matter—0.5 to 0.8 percent
Calcium carbonate equivalent—1 to 5 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel

Bk horizons:

Hue—10YR or 2.5Y dry and moist
Value—5 or 6 dry and 3 or 4 moist
Chroma—3 or 4 dry and 2 to 4 moist
Texture of the fine-earth fraction—loam, clay loam, sandy clay loam, or silty clay loam
Content of clay—18 to 35 percent
Content of organic matter—0.05 to 0.3 percent
Calcium carbonate equivalent—1 to 5 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel

Panoza Series

The Panoza series consists of moderately deep, well drained soils that formed in residuum weathered from calcareous sandstone, shale, and/or conglomerate. These soils are on hillslopes. Slope is 15 to 75 percent. Panoza soils are classified as fine-loamy, mixed, superactive, thermic Calcic Haploxerepts.

Typical pedon

In the survey area of San Luis Obispo County, Carrizo Plain, map unit 221, Beam-Panoza-Hillbrick complex, 30 to 50 percent slopes; about 8.5 miles (13.7 kilometers) southeast on Simmler-Soda Lake Road from its intersection with Soda Lake-San Diego Creek Road; about 0.5 mile (0.8 kilometer) southwest on a dirt road just before a cattle guard and 200 feet (61.0 meters) uphill from the north-northwest bend in a creek on magnetic bearing 308 degrees; about 1,570 feet (478.5 meters) north and 910 feet (277.4 meters) west of the southeast corner of sec. 12, T. 31 S., R. 20 E.; Mount Diablo Base and Meridian; latitude 35 degrees 14 minutes 17 seconds north and longitude 119 degrees 46 minutes 35 seconds west; USGS Painted Rock, California, Quadrangle, NAD83.

A—0 to 6 inches (0 to 15 centimeters); pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure parting to moderate fine subangular blocky; hard, friable, nonsticky and slightly plastic; common very fine roots; common very fine tubular and interstitial pores; 2 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); gradual smooth boundary.

Bw—6 to 18 inches (15 to 46 centimeters); light gray (10YR 7/2) loam, brown (10YR 5/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine roots; common very fine tubular and interstitial pores; violently effervescent; carbonates disseminated; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); gradual wavy boundary.

Bk—18 to 24 inches (46 to 61 centimeters); light gray (10YR 7/2) loam, pale brown (10YR 6/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine roots; common very fine tubular pores; violently effervescent; carbonates disseminated and segregated as few soft masses; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); gradual wavy boundary.

Cr—24 to 34 inches (61 to 86 centimeters); moderately cemented, calcareous, coarse grained sandstone.

Range in characteristics

The depth to paralithic contact is 20 to 40 inches (51 to 102 centimeters). The percentage of the surface covered by rock fragments is as follows: 0 to 5 percent by 2- to 75-millimeter gravel, 0 to 20 percent by 75- to 250-millimeter cobbles, and 0 to 15 percent by 250- to 600-millimeter stones consisting of sandstone, shale, and/or conglomerate.

A horizon:

Hue—10YR or 2.5Y dry and moist

Value—5 or 6 dry and 4 or 5 moist

Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—loam

Content of clay—18 to 25 percent

Content of organic matter—0.5 to 1.0 percent

Calcium carbonate equivalent—1 to 5 percent

Content of gypsum—0 to 1 percent

Reaction—moderately alkaline

Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel, 0 to 20 percent 75- to 250-millimeter cobbles, and 0 to 15 percent 250- to 600-millimeter stones

Bw horizon:

Hue—10YR or 2.5Y dry and moist

Value—6 or 7 dry and 5 or 6 moist

Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—18 to 25 percent
Content of organic matter—0.2 to 0.4 percent
Calcium carbonate equivalent—1 to 5 percent
Content of gypsum—0 to 1 percent
Reaction—moderately alkaline
Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel, 0 to 20 percent 75- to 250-millimeter cobbles, and 0 to 15 percent 250- to 600-millimeter stones

Bk horizon:

Hue—10YR or 2.5Y dry and moist
Value—6 to 8 dry and 4 to 7 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—18 to 25 percent
Content of organic matter—0.05 to 0.2 percent
Calcium carbonate equivalent—1 to 8 percent
Content of gypsum—0 to 1 percent
Reaction—moderately alkaline
Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel, 0 to 20 percent 75- to 250-millimeter cobbles, and 0 to 15 percent 250- to 600-millimeter stones

Pleitito Series

The Pleitito series consists of very deep, well drained soils that formed in alluvium derived from sedimentary and/or granitoid rock. These soils are on alluvial fans and flood plains. Slope is 1 to 15 percent. Pleitito soils are classified as coarse-loamy, mixed, superactive, calcareous, thermic Typic Xerofluvents.

Typical pedon

In map unit 561, Laval-Pleitito complex, 5 to 15 percent slopes; Kern County, California; about 26 miles (41.8 kilometers) southwest of downtown Bakersfield; 0.90 mile (1.5 kilometers) west of Interstate 5; 850 feet (259.1 meters) north and 2,710 feet (826.0 meters) west of the southeast corner of sec. 36, T. 11 N., R. 20 W.; San Bernardino Base and Meridian; latitude 34 degrees 59 minutes 12 seconds north and longitude 118 degrees 57 minutes 46 seconds west; USGS Grapevine, California, Quadrangle, NAD83.

- A1—0 to 3 inches (0 to 8 centimeters); pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial and few very fine tubular pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); clear wavy boundary.
- A2—3 to 8 inches (8 to 20 centimeters); pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial pores; strongly effervescent; carbonates disseminated; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.
- C1—8 to 11 inches (20 to 28 centimeters); very pale brown (10YR 7/3), stratified sand to fine sandy loam, brown (10YR 5/3) moist; strong thick platy structure parting to weak thick platy; slightly hard, friable, slightly sticky and slightly plastic; common

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- very fine roots; few very fine tubular pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.
- C2—11 to 18 inches (28 to 46 centimeters); pale brown (10YR 6/3) very gravelly sand, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine roots; many fine and very fine interstitial pores; slightly effervescent; carbonates disseminated; 35 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.
- C3—18 to 21 inches (46 to 53 centimeters); light brownish gray (10YR 6/2), stratified very gravelly sand to fine sandy loam, dark grayish brown (10YR 4/2) moist; moderate thin and very thin platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine interstitial pores; slightly effervescent; carbonates disseminated; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); abrupt smooth boundary.
- C4—21 to 29 inches (53 to 74 centimeters); pale brown (10YR 6/3) very gravelly coarse sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular and common fine interstitial pores; slightly effervescent; carbonates disseminated; 45 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear smooth boundary.
- Ab—29 to 48 inches (74 to 122 centimeters); brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular and few very fine interstitial pores; slightly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear smooth boundary.
- Bkb—48 to 65 inches (122 to 165 centimeters); pale brown (10YR 6/3) sandy loam, dark brown (10YR 4/3) moist; weak coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular and few very fine interstitial pores; strongly effervescent; carbonates segregated as few fine threads and coatings on the underside of pebbles; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0).

Range in characteristics

A horizons:

Hue—10YR dry and moist
Value—6 dry and 4 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam
Content of clay—3 to 10 percent
Content of organic matter—0.2 to 1.5 percent
Calcium carbonate equivalent—1 to 3 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel

C horizons:

Hue—10YR dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sand, sandy loam, or stratified sand to fine sandy loam
Content of clay—2 to 10 percent
Content of organic matter—0.01 to 0.6 percent
Calcium carbonate equivalent—1 to 3 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 50 percent 2- to 75-millimeter gravel

Ab horizon:

Hue—10YR dry and moist
Value—5 dry and 3 moist
Chroma—3 dry and moist
Texture of the fine-earth fraction—sandy loam
Content of clay—5 to 10 percent
Content of organic matter—0.2 to 1.2 percent
Calcium carbonate equivalent—1 to 3 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—5 to 20 percent 2- to 75-millimeter gravel

Bkb horizon:

Hue—10YR dry and moist
Value—5 or 6 dry and 3 or 4 moist
Chroma—3 dry and moist
Texture of the fine-earth fraction—sandy loam
Content of clay—5 to 10 percent
Content of organic matter—0.01 to 0.1 percent
Calcium carbonate equivalent—1 to 3 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—5 to 20 percent 2- to 75-millimeter gravel

Pleito Series

The Pleito series consists of very deep, well drained soils that formed in alluvium derived from mixed sources. These soils are on fan remnants and stream terraces. Slope is 0 to 60 percent. Pleito soils are classified as fine-loamy, mixed, superactive, thermic Calcic Pachic Haploxerolls.

Typical pedon

In map unit 391, Pleito sandy clay loam, 2 to 5 percent slopes; Kern County, California; about 30.5 miles (49.1 kilometers) south of downtown Bakersfield; 1,600 feet (487.7 meters) west and 60 feet (18.3 meters) north of the southeast corner of sec. 11, T. 10 N., R. 20 W.; San Bernardino Base and Meridian; latitude 34 degrees 57 minutes 20 seconds north and longitude 118 degrees 58 minutes 36 seconds west; USGS Grapevine, California, Quadrangle, NAD83.

Ap1—0 to 4 inches (0 to 10 centimeters); grayish brown (10YR 5/2) sandy clay loam, very dark grayish brown (10YR 3/2) moist; weak coarse angular blocky structure; very hard, very friable, moderately sticky and moderately plastic; common very fine roots; few very fine tubular pores; slightly alkaline (pH 7.6); abrupt smooth boundary.

Ap2—4 to 8 inches (10 to 20 centimeters); grayish brown (10YR 5/2) sandy clay loam, very dark grayish brown (10YR 3/2) moist; moderate coarse angular blocky structure; very hard, very friable, moderately sticky and moderately plastic; common very fine roots; few very fine tubular pores; 12 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bw—8 to 18 inches (20 to 46 centimeters); grayish brown (10YR 5/2) sandy clay loam, very dark grayish brown (10YR 3/2) moist; moderate coarse prismatic structure; hard, very friable, moderately sticky and moderately plastic; common very fine roots; common very fine and few fine tubular pores; 12 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.8); clear wavy boundary.

Bk1—18 to 25 inches (46 to 64 centimeters); brown (10YR 5/3) sandy clay loam, dark brown (10YR 3/3) moist; weak coarse prismatic structure; hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots;

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common very fine and few fine tubular pores; strongly effervescent; carbonates segregated as common fine threads on surfaces along pores and thin coatings on rock fragments; 12 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—25 to 32 inches (46 to 81 centimeters); brown (10YR 5/3) gravelly sandy clay loam, dark brown (10YR 3/3) moist; weak coarse prismatic structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots; common very fine and few fine tubular pores; strongly effervescent; carbonates segregated as common fine threads on surfaces along pores and thin coatings on rock fragments; 15 percent 2- to 75-millimeter gravel and 3 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2); clear wavy boundary.

Bk3—32 to 46 inches (81 to 117 centimeters); very pale brown (10YR 7/4) and brown (10YR 5/3) gravelly sandy clay loam, yellowish brown (10YR 5/4) and dark brown (10YR 3/3) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots; many very fine and few fine tubular pores; violently effervescent; carbonates segregated as many fine and medium soft masses and threads; several burrows filled with dark brown soil; 15 percent 2- to 75-millimeter gravel, 3 percent 75- to 250-millimeter cobbles, and 5 percent 250- to 600-millimeter stones; moderately alkaline (pH 8.2); clear wavy boundary.

Bk4—46 to 56 inches (117 to 142 centimeters); very pale brown (10YR 7/4) gravelly sandy clay loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; few very fine roots; many very fine and few fine tubular pores; violently effervescent; carbonates segregated as common fine and medium soft masses and threads; 15 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear smooth boundary.

Bk5—56 to 64 inches (142 to 163 centimeters); very pale brown (10YR 7/4) gravelly sandy clay loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; few very fine roots; many very fine and few fine tubular pores; strongly effervescent; carbonates segregated as common fine and medium soft masses and filaments; 15 percent 2- to 75-millimeter gravel; moderately alkaline (pH 7.9); clear wavy boundary.

2Btk—64 to 80 inches (163 to 203 centimeters); very pale brown (10YR 7/4) gravelly sandy clay loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; few very fine roots; many very fine and few fine tubular pores; strongly effervescent; carbonates segregated as common fine and medium soft masses and filaments; 25 percent 2- to 75-millimeter gravel; moderately alkaline (pH 7.9).

Range in characteristics

About 0 to 15 percent of the surface is covered by 2- to 75-millimeter gravel of mixed mineralogy.

A horizons:

Hue—10YR dry and moist

Value—4 or 5 dry and 2 or 3 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—fine sandy loam or sandy clay loam

Content of clay—10 to 25 percent

Content of organic matter—1 to 3 percent

Calcium carbonate equivalent—0 to 1 percent

Reaction—neutral or slightly alkaline

Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel

Bw horizon:

Hue—10YR dry and moist

Value—4 or 5 dry and 2 or 3 moist

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Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—fine sandy loam or sandy clay loam
Content of clay—10 to 25 percent
Content of organic matter—1.1 to 1.5 percent
Calcium carbonate equivalent—0 to 1 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel

Bk and 2Btk horizons:

Hue—10YR dry and moist
Value—5 to 7 dry and 3 to 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam, fine sandy loam, loam, or sandy clay loam
Content of clay—10 to 25 percent
Content of organic matter in the Bk1 horizon—1.0 to 1.3 percent
Content of organic matter below the Bk1 horizon—0.05 to 0.7 percent
Calcium carbonate equivalent—2 to 7 percent
Reaction—moderately alkaline
Content of rock fragments—0 to 35 percent 2- to 75-millimeter gravel, 0 to 5 percent 75- to 250-millimeter cobbles, and 0 to 10 percent 250- to 600-millimeter stones

Positas Series

The Positas series consists of very deep, well drained soils that formed in alluvium derived from mixed rock sources. These soils are on fan remnants and stream terraces. Slope is 2 to 9 percent. Positas soils are classified as fine, smectitic, thermic Mollic Palixeralfs.

Typical pedon

In map unit 600, Positas-Bitcreek complex, 2 to 9 percent slopes; Kern County, California; about 10 miles (16.1 kilometers) south-southeast of downtown Bakersfield; about 2,280 feet (694.9 meters) south and 365 feet (111.3 meters) east of the northwest corner of sec. 36, T. 10 N., R. 21 W.; Mount Diablo Base and Meridian; latitude 34 degrees 54 minutes 49 seconds north and longitude 119 degrees 04 minutes 53 seconds west; USGS Pleito Hills, California, Quadrangle, NAD83.

A1—0 to 2 inches (0 to 5 centimeters); brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate thick platy structure parting to moderate medium platy; soft, very friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores; 5 percent 2- to 75-millimeter gravel; neutral (pH 6.8); abrupt smooth boundary.

A2—2 to 10 inches (5 to 25 centimeters); brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak very coarse prismatic structure parting to moderate subangular blocky; slightly hard, friable, slightly sticky and moderately plastic; common very fine roots; common very fine tubular pores; 5 percent 2- to 75-millimeter gravel; neutral (pH 6.8); clear smooth boundary.

A3—10 to 15 inches (25 to 38 centimeters); brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate very coarse prismatic structure parting to moderate subangular blocky; slightly hard, friable, slightly sticky and moderately plastic; common very fine roots; common very fine and few fine and medium tubular pores; 5 percent 2- to 75-millimeter gravel; neutral (pH 6.8); abrupt smooth boundary.

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- Bt1—15 to 19 inches (38 to 48 centimeters); light brown (7.5YR 6/3) clay, brown (7.5YR 4/3) moist; strong coarse prismatic structure parting to strong medium angular blocky; very hard, firm, very sticky and very plastic; common very fine roots; common very fine and few fine tubular pores; few faint clay films on faces of peds and common clay films along surfaces of pores; 2 percent 2- to 75-millimeter gravel; slightly acid (pH 6.5); abrupt smooth boundary.
- Bt2—19 to 32 inches (48 to 81 centimeters); light brown (7.5YR 6/3) clay, dark brown (7.5YR 4/3) moist; strong coarse prismatic structure parting to strong medium angular blocky; very hard, friable, very sticky and very plastic; few very fine roots; common very fine and few fine tubular pores; common faint clay films on faces of peds and many clay films along surfaces of pores; 2 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.4); abrupt smooth boundary.
- Bt3—32 to 37 inches (81 to 94 centimeters); brown (7.5YR 7/4) clay, dark brown (7.5YR 4/4) moist; weak coarse prismatic structure; very hard, friable, very sticky and very plastic; few very fine roots; common very fine and few fine tubular pores; many faint clay films on faces of peds and along surfaces of pores; 2 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.6); abrupt smooth boundary.
- BCt—37 to 44 inches (94 to 112 centimeters); light yellowish brown (10YR 6/4) sandy clay loam, yellowish brown (10YR 5/4) moist; moderate medium prismatic structure; very hard, friable, moderately sticky and moderately plastic; few very fine roots; common very fine and few fine tubular pores; many faint clay films on faces of peds and along surfaces of pores; 5 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.8); abrupt wavy boundary.
- 2B't—44 to 55 inches (112 to 140 centimeters); light yellowish brown (10YR 6/4) extremely gravelly sandy clay loam, yellowish brown (10YR 5/4) moist; massive; very hard, friable, moderately sticky and moderately plastic; no roots; common very fine tubular pores; many faint clay films on faces of peds and common clay films bridging sand grains; 60 percent 2- to 75-millimeter gravel and 5 percent 75- to 250-millimeter cobbles; slightly alkaline (pH 7.8); abrupt wavy boundary.
- 2BC't—55 to 67 inches (140 to 170 centimeters); light yellowish brown (10YR 6/4) extremely gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many fine tubular pores; few faint clay films bridging sand grains; 65 percent 2- to 75-millimeter gravel and 5 percent 75- to 250-millimeter cobbles; slightly alkaline (pH 7.8).

Range in characteristics

A horizons:

- Hue—10YR dry and moist
- Value—5 or 6 dry and 3 or 4 moist
- Chroma—2 or 3 dry and moist
- Texture of the fine-earth fraction—sandy loam or loam
- Content of clay—10 to 26 percent
- Content of organic matter—0.8 to 4 percent
- Reaction—slightly acid or neutral
- Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel

Bt horizons:

- Hue—10YR or 7.5YR dry and moist
- Value—5 to 7 dry and 2 to 5 moist
- Chroma—2 to 4 dry and moist
- Texture of the fine-earth fraction—clay loam or clay
- Content of clay—35 to 45 percent
- Content of organic matter—0.1 to 1.0 percent
- Reaction—slightly acid to moderately alkaline
- Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel

BCt, 2B't, and 2BC't horizons:

Hue—10YR or 7.5YR dry and moist

Value—5 to 7 dry and 2 to 5 moist

Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—sandy loam or sandy clay loam

Content of clay—8 to 45 percent

Content of organic matter—0.1 to 1.5 percent

Reaction—neutral to moderately alkaline

Content of rock fragments—35 to 70 percent 2- to 75-millimeter gravel and 0 to 10 percent 75- to 250-millimeter cobbles

Posochanet Series

The Posochanet series consists of very deep, moderately well drained soils that formed in stratified alluvium derived from sedimentary and/or granitoid rock. These soils are on fan skirts. Slope is 0 to 1 percent. Posochanet soils are classified as fine-silty, mixed, superactive, thermic Sodic Haplocambids.

Typical pedon

Posochanet silt loam in map unit 352, Posochanet-Posochanet, partially reclaimed, association, 0 to 1 percent slopes; Kern County, California; about 7 miles (11.3 kilometers) east of Taft; about 160 feet (48.8 meters) south and 1,910 feet (582.2 meters) west of the northeast corner of sec. 19, T. 32 S., R. 25 E.; Mount Diablo Base and Meridian; latitude 35 degrees 08 minutes 14 seconds north and longitude 119 degrees 19 minutes 45 seconds west; USGS Mouth of Kern, California, Quadrangle, NAD83

A—0 to 1 inch (0 to 3 centimeters); pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate thin platy structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine roots; many very fine and fine interstitial pores; electrical conductivity of 10.0 decisiemens per meter; sodium adsorption ratio of 30; very slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw—1 to 6 inches (3 to 15 centimeters); very pale brown (10YR 7/3) silty clay loam, brown (10YR 5/3) moist; moderate coarse prismatic structure parting to weak coarse subangular blocky; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots, mostly along faces of peds; common very fine and few fine tubular pores; electrical conductivity of 25.0 decisiemens per meter; sodium adsorption ratio of 122; very slightly effervescent; carbonates disseminated; few fine and medium soft masses of gypsum; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bnyz1—6 to 16 inches (15 to 41 centimeters); very pale brown (10YR 7/3) silty clay loam, brown (10YR 5/3) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; slightly hard, very friable, moderately sticky and moderately plastic; few very fine roots; common very fine and few fine and medium tubular pores; electrical conductivity of 28.0 decisiemens per meter; sodium adsorption ratio of 179; slightly effervescent; carbonates disseminated; few fine and medium soft masses of gypsum; strongly alkaline (pH 8.9); clear smooth boundary.

Bnyz2—16 to 26 inches (41 to 66 centimeters); pale brown (10YR 6/3) clay loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; few very fine roots; many very fine and few fine tubular pores; electrical conductivity of 25.0 decisiemens per meter; sodium adsorption ratio of 112; strongly effervescent; carbonates disseminated; few fine and medium

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soft masses and threads of gypsum; strongly alkaline (pH 9.1); gradual smooth boundary.

Bnyz3—26 to 41 inches (66 to 104 centimeters); pale brown (10YR 6/3) and light yellowish brown (2.5Y 6/4) silty clay, brown (10YR 4/3) and olive brown (2.5Y 4/4) moist; massive; hard, friable, moderately sticky and moderately plastic; few very fine roots; many very fine and few fine tubular pores; electrical conductivity of 26.0 decisiemens per meter; sodium adsorption ratio of 120; slightly effervescent; carbonates disseminated; few fine and medium soft masses and threads of gypsum; strongly alkaline (pH 8.5); clear smooth boundary.

Bnyz4—41 to 54 inches (104 to 137 centimeters); pale brown (10YR6/3) clay loam, brown (10YR 4/3) moist; massive; hard, friable, moderately sticky and moderately plastic; few very fine roots; many very fine and few fine tubular pores; electrical conductivity of 27.0 decisiemens per meter; sodium adsorption ratio of 123; strongly effervescent; carbonates disseminated; few fine and medium soft masses and threads of gypsum; strongly alkaline (pH 8.5); clear smooth boundary.

Bnyz5—54 to 58 inches (137 to 147 centimeters); pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; massive; hard, friable, moderately sticky and moderately plastic; many very fine and few fine tubular pores; electrical conductivity of 24.0 decisiemens per meter; sodium adsorption ratio of 120; strongly effervescent; carbonates disseminated; few fine and medium soft masses and threads of gypsum; strongly alkaline (pH 8.5); abrupt smooth boundary.

Bnyz6—58 to 62 inches (147 to 157 centimeters); pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; massive; hard, friable, moderately sticky and moderately plastic; many very fine and fine tubular pores; electrical conductivity of 24.0 decisiemens per meter; sodium adsorption ratio of 120; strongly effervescent; carbonates disseminated; few fine and medium soft masses and threads of gypsum; strongly alkaline (pH 8.5).

Range in characteristics

Redoximorphic concentrations and depletions occur in some pedons. They are few or common, fine or medium, and distinct or prominent and have moist color of 10YR 3/2 and 7/6. The depth to these features is 18 to 30 inches (46 to 76 centimeters). The content of organic carbon decreases irregularly with increasing depth.

A horizon:

Hue—10YR or 2.5Y dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—loam or silt loam

Content of clay—15 to 27 percent

Content of organic matter—2 to 3 percent

Electrical conductivity—generally 5 to 15 decisiemens per meter; 2 to 13 decisiemens per meter in the partially reclaimed soil

Sodium adsorption ratio—5 to 40

Reaction—moderately alkaline or strongly alkaline

Bw horizon:

Hue—10YR or 2.5Y dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—loam, silt loam, or silty clay loam

Content of clay—15 to 27 percent

Content of organic matter—0.5 to 1.25 percent

Electrical conductivity—generally 5 to 28 decisiemens per meter; 2 to 13 decisiemens per meter in the partially reclaimed soil

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Sodium adsorption ratio—generally 50 to 140; 5 to 20 in the partially reclaimed soil
Reaction—moderately alkaline or strongly alkaline

*Bn*yz horizons:

Hue—10YR or 2.5Y dry and moist

Value—6 or 7 dry and 4 to 6 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—loam, clay loam, silt loam, silty clay loam, or silty clay

Content of clay—10 to 50 percent

Content of organic matter—0.05 to 1.25 percent

Electrical conductivity—generally 15 to 29 decisiemens per meter; 2 to 13 decisiemens per meter in the partially reclaimed soil

Sodium adsorption ratio—generally 50 to 200; 5 to 20 in the partially reclaimed soil
Reaction—moderately alkaline to very strongly alkaline

Premier Series

The Premier series consists of very deep, well drained soils that formed in alluvium derived dominantly from granitoid rock. These soils are on alluvial fans. Slope is 0 to 5 percent. Premier soils are classified as coarse-loamy, mixed, superactive, calcareous, thermic Xeric Torriorthents.

Typical pedon

In map unit 280, Premier sandy loam, 0 to 2 percent slopes; Kern County, California; about 14 miles (22.5 kilometers) south of Lamont; 1.7 miles (2.7 kilometers) west of Wheeler Ridge Road and 0.75 mile (1.2 kilometers) north of Sebastian Road; 1,390 feet (423.7 meters) east and 1,500 feet (457.2 meters) south of the northwest corner of sec. 10, T. 11 N., R. 19 W.; San Bernardino Base and Meridian; latitude 35 degrees 02 minutes 22 seconds north and longitude 118 degrees 53 minutes 43 seconds west; USGS Mettler, California, Quadrangle, NAD83.

Ap1—0 to 7 inches (0 to 18 centimeters); brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure parting to moderate fine granular; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores in clods; slightly effervescent; carbonates disseminated; 2 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); abrupt smooth boundary.

Ap2—7 to 16 inches (18 to 41 centimeters); brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure parting to moderate fine granular; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and few fine tubular pores; strongly effervescent; carbonates disseminated; 2 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); abrupt smooth boundary.

C1—16 to 24 inches (41 to 61 centimeters); pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; many very fine tubular pores; strongly effervescent; carbonates disseminated and segregated as few fine soft threads; 2 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.1); clear smooth boundary.

C2—24 to 38 inches (61 to 97 centimeters); pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and slightly plastic; few very fine, fine, and medium roots; common very fine and few fine and medium tubular pores; strongly effervescent; carbonates disseminated and segregated as

few fine soft threads; 2 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.1); clear smooth boundary.

C3—38 to 55 inches (97 to 140 centimeters); very pale brown (10YR 7/3) loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and slightly plastic; few very fine and fine roots; many very fine and few fine and medium tubular pores; strongly effervescent; carbonates disseminated and segregated as few fine soft threads; 2 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.1); clear smooth boundary.

C4—55 to 64 inches (140 to 163 centimeters); light yellowish brown (10YR 6/4) loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, slightly sticky and nonplastic; few very fine roots; many very fine and few fine and medium tubular pores; strongly effervescent; carbonates disseminated and segregated as few fine soft threads; 2 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.1).

Range in characteristics

About 0 to 3 percent of the surface is covered by 2- to 40-millimeter gravel consisting of granitoid rock. The A horizons are noneffervescent or slightly effervescent, and the C horizons are strongly effervescent to violently effervescent.

A horizons:

Hue—10YR dry and moist

Value—4 or 5 dry and 3 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—sandy loam

Content of clay—5 to 18 percent

Content of organic matter—0.5 to 1 percent

Reaction—slightly alkaline or moderately alkaline

Content of rock fragments—0 to 3 percent 2- to 40-millimeter gravel

C horizons:

Hue—10YR dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—coarse sandy loam, sandy loam, fine sandy loam, or loam

Content of clay—5 to 18 percent

Content of organic matter—0.1 to 0.3 percent

Reaction—slightly alkaline or moderately alkaline

Content of rock fragments—0 to 3 percent 2- to 40-millimeter gravel

Pyxo Series

The Pyxo series consists of moderately deep, well drained soils that formed in residuum weathered from calcareous sandstone or shale. These soils are on hillslopes. Slope is 2 to 50 percent. Pyxo soils are classified as coarse-loamy, mixed, superactive, thermic Typic Haplocambids.

Typical pedon

In map unit 472, Pyxo-Kimberlina-Cochora association, 2 to 15 percent slopes; Kern County, California; about 1.0 mile (1.6 kilometers) northwest of Derby Acres; about 320 feet (97.5 meters) north and 950 feet (289.6 meters) west of the southeast corner of sec. 4, T. 31 S., R. 22 E.; Mount Diablo Base and Meridian; latitude 35 degrees 15 minutes 15 seconds north and longitude 119 degrees 36 minutes 49 seconds west; USGS West Elk Hills, California, Quadrangle, NAD83.

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- A—0 to 5 inches (0 to 13 centimeters); pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; moderate coarse angular blocky structure parting to moderate medium angular blocky; very friable, slightly hard, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; slightly effervescent; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear wavy boundary.
- Bk1—5 to 12 inches (13 to 30 centimeters); very pale brown (10YR 7/4) loam, yellowish brown (10YR 5/4) moist; weak medium and coarse angular blocky structure; very friable, slightly hard, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; few fine threadlike masses of carbonate; violently effervescent; 10 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.5); clear wavy boundary.
- Bk2—12 to 22 inches (30 to 56 centimeters); very pale brown (10YR 7/3) loam, yellowish brown (10YR 5/4) moist; weak medium and coarse blocky structure; very friable, slightly hard, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; few fine threadlike masses of carbonate; violently effervescent; 10 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.5); clear wavy boundary.
- Ck—22 to 30 inches (56 to 76 centimeters); very pale brown (10YR 8/2) sandy loam, light yellowish brown (10YR 6/4) moist; massive; very friable, slightly hard, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; violently effervescent; 10 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.5); abrupt wavy boundary.
- Cr—30 to 40 inches (76 to 102 centimeters); weakly cemented shale.

Range in characteristics

The depth to paralithic contact is 20 to 40 inches (51 to 102 centimeters). About 0 to 10 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sandstone, shale, and/or siltstone.

A horizon:

- Hue—10YR dry and moist
- Value—6 or 7 dry and 4 or 5 moist
- Chroma—2 to 4 dry and moist
- Texture of the fine-earth fraction—sandy loam or loam
- Content of clay—10 to 18 percent
- Content of organic matter—0.2 to 1 percent
- Calcium carbonate equivalent—1 to 2 percent
- Reaction—moderately alkaline
- Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel

Bk horizons:

- Hue—10YR dry and moist
- Value—6 to 8 dry and 4 to 6 moist
- Chroma—2 to 4 dry and moist
- Texture of the fine-earth fraction—sandy loam or loam
- Content of clay—10 to 18 percent
- Content of organic matter—0.1 to 0.5 percent
- Calcium carbonate equivalent—2 to 4 percent
- Reaction—moderately alkaline or strongly alkaline
- Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

Ck horizon:

- Hue—10YR dry and moist
- Value—6 to 8 dry and 4 to 6 moist

Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—10 to 18 percent
Content of organic matter—0.1 to 0.5 percent
Calcium carbonate equivalent—2 to 4 percent
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

Reward Series

The Reward series consists of deep or very deep, well drained soils that formed in residuum derived from calcareous sandstone and/or shale. These soils are on hillslopes. Slope is 15 to 50 percent. Reward soils are classified as fine-loamy, mixed, superactive, thermic Pachic Haploxerolls.

Typical pedon

In the survey area of Kern County, northwestern part, map unit 228, Reward channery loam, 30 to 50 percent slopes (map unit 581 in the survey area of Kern County, southwest part); about 4 miles (6.4 kilometers) southwest of McKittrick; about 700 feet (213.4 meters) north and 2,125 feet (647.7 meters) east of the southwest corner of sec. 35, T. 30 S., R. 21 E.; Mount Diablo Base and Meridian; latitude 35 degrees 15 minutes 52 seconds north and longitude 119 degrees 41 minutes 19 seconds west; USGS Fellows, California, Quadrangle, NAD83.

- A1—0 to 10 inches (0 to 25 centimeters); grayish brown (10YR 5/2) channery loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular and interstitial pores; strongly effervescent; carbonates disseminated; 23 percent 2- to 75-millimeter and 2 percent 75- to 250-millimeter channers; moderately alkaline (pH 8.2); abrupt smooth boundary.
- A2—10 to 24 inches (25 to 61 centimeters); grayish brown (10YR 5/2) channery loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and fine tubular and many very fine interstitial pores; strongly effervescent; carbonates disseminated; 23 percent 2- to 75-millimeter and 2 percent 75- to 250-millimeter channers; moderately alkaline (pH 8.2); clear wavy boundary.
- C1—24 to 39 inches (61 to 99 centimeters); grayish brown (10YR 5/2) channery loam, very dark grayish brown (10YR 3/2) moist; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine and fine tubular and many very fine interstitial pores; carbonates disseminated and segregated as few fine threads; 26 percent 2- to 75-millimeter and 2 percent 75- to 250-millimeter channers; moderately alkaline (pH 8.2); abrupt wavy boundary.
- C2—39 to 60 inches (99 to 152 centimeters); pale brown (10YR 6/3) channery clay loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine tubular and many very fine interstitial pores; strongly effervescent; carbonates disseminated and segregated as few fine threads; 26 percent 2- to 75-millimeter channers; moderately alkaline (pH 8.2); abrupt wavy boundary.
- R—60 to 70 inches (152 to 178 centimeters); very strongly cemented, calcareous sandstone.

Range in characteristics

The depth to paralithic contact is 40 to 70 inches (102 to 177 centimeters). About 1 to 10 percent of the surface is covered by 2- to 75-millimeter, flat channers consisting of sandstone and/or shale.

A horizons:

Hue—10YR dry and moist
Value—5 dry and 3 moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—loam
Content of clay—18 to 25 percent
Content of organic matter—1.0 to 3.0 percent
Calcium carbonate equivalent—1 to 4 percent
Reaction—moderately alkaline
Content of rock fragments—15 to 30 percent 2- to 75-millimeter, flat channers and 0 to 3 percent 75- to 250-millimeter channers

C horizons:

Hue—10YR dry and moist
Value—5 or 6 dry and 3 moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—loam or clay loam
Content of clay—20 to 30 percent
Content of organic matter—0.05 to 0.4 percent
Calcium carbonate equivalent—1 to 4 percent
Reaction—moderately alkaline
Content of rock fragments—0 to 35 percent 2- to 75-millimeter, flat channers and 0 to 3 percent 75- to 250-millimeter channers

Selby Series

The Selby series consists of moderately deep, well drained soils that formed in material weathered from metamorphic and sedimentary rock. These soils are on hillslopes. Slope is 30 to 75 percent. Selby soils are classified as loamy-skeletal, mixed, superactive, thermic Typic Argixerolls.

Typical pedon

In map unit 591, Geghus-Selby complex, 30 to 75 percent slopes; Kern County, California; 1,800 feet (548.6 meters) north and 2,200 feet (670.6 meters) east of the southwest corner of sec. 21, T. 10 N., R. 22 W.; San Bernardino Base and Meridian; latitude 34 degrees 56 minutes 07 seconds north and longitude 119 degrees 14 minutes 18 seconds west; USGS Eagle Rest Peak, California, Quadrangle, NAD83.

- A—0 to 3 inches (0 to 8 centimeters); brown (7.5YR 5/2) gravelly loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 20 percent 2- to 75-millimeter gravel and 30 percent 75- to 250-millimeter cobbles; neutral (pH 7.0); abrupt wavy boundary.
- Bt1—3 to 8 inches (8 to 20 centimeters); brown (7.5YR 5/3) gravelly loam, dark brown (7.5YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; many distinct clay films on faces of peds and along surfaces of pores; moderately alkaline (pH 8.0); clear wavy boundary.
- Bt2—8 to 16 inches (20 to 41 centimeters); brown (7.5YR 5/2) very gravelly sandy clay loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky

structure; hard, very friable, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; many distinct clay films on faces of peds and along surfaces of pores; 30 percent 2- to 75-millimeter gravel and 25 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.0); abrupt wavy boundary. Bt3—16 to 25 inches (41 to 51 centimeters); light yellowish brown (10YR 6/4) extremely cobbly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 40 percent 2- to 75-millimeter gravel and 30 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.0); abrupt irregular boundary. R—25 inches; very strongly cemented gabbro.

Range in characteristics

The depth to lithic contact is 20 to 40 inches (51 to 102 centimeters). The percentage of the surface covered by rock fragments is as follows: 10 to 40 percent by 2- to 75-millimeter gravel and 10 to 40 percent by 75- to 250-millimeter cobbles consisting of metamorphic and/or sedimentary rock.

A horizon:

Hue—10YR or 7.5YR dry and moist
Value—5 dry and 3 moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—loam
Content of clay—10 to 25 percent
Content of organic matter—1.0 to 3.0 percent
Reaction—neutral or slightly alkaline
Content of rock fragments—10 to 30 percent 2- to 75-millimeter gravel and 20 to 40 percent 75- to 250-millimeter cobbles

Bt horizons:

Hue—10YR or 7.5YR dry and moist
Value—5 or 6 dry and 3 or 4 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam, loam, sandy clay loam, or clay loam
Content of clay—8 to 35 percent
Content of organic matter—0.1 to 2.0 percent
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—10 to 50 percent 2- to 75-millimeter gravel and 10 to 40 percent 75- to 250-millimeter cobbles

Shimmon Series

The Shimmon series consists of moderately deep, well drained soils that formed in residuum derived from sandstone and shale. These soils are on hillslopes. Slope is 9 to 75 percent. Shimmon soils are classified as fine-loamy, mixed, superactive, thermic Typic Argixerolls.

Typical pedon

In map unit 930, Bitcreek-Shimmon-Balhud complex, 9 to 50 percent slopes; Kern County, California; about 9 miles (14.5 kilometers) southeast of Maricopa; 1,320 feet (402.3 meters) north and 1,950 feet (594.4 meters) west of the projected southeast corner of sec. 24, T. 10 N., R. 24 W.; San Bernardino Base and Meridian; latitude 34 degrees 56 minutes 11 seconds north and longitude 119 degrees 23 minutes 24 seconds west; USGS Ballinger Canyon, California, Quadrangle, NAD83.

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- A1—0 to 1 inch (0 to 3 centimeters); dark grayish brown (10YR 4/2) loam, very dark brown (10YR 2/2) moist; strong fine granular structure; slightly hard, firm, slightly sticky and slightly plastic; many very fine roots; many very fine tubular and interstitial pores; 10 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.
- A2—1 to 5 inches (3 to 13 centimeters); dark grayish brown (10YR 4/2) loam, very dark brown (10YR 2/2) moist; moderate coarse subangular blocky structure; hard, firm, slightly sticky and slightly plastic; common very fine roots; common very fine tubular and interstitial pores; 10 percent 2- to 75-millimeter gravel; neutral (pH 7.0); clear smooth boundary.
- Bt1—5 to 11 inches (13 to 28 centimeters); dark grayish brown (10YR 4/2) clay loam, very dark brown (10YR 2/2) moist; moderate very coarse subangular blocky structure parting to moderate coarse subangular blocky; hard, firm, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular and interstitial pores; common faint clay films on faces of peds and along surfaces of pores; 8 percent 2- to 75-millimeter gravel; neutral (pH 7.0); clear smooth boundary.
- Bt2—11 to 15 inches (28 to 38 centimeters); grayish brown (10YR 5/2) clay loam, very dark grayish brown (10YR 3/2) moist; moderate coarse subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few very fine roots; few very fine tubular and interstitial pores; few prominent clay films on faces of peds and common faint clay films on faces of peds and along surfaces of pores; 13 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.
- Bt3—15 to 21 inches (38 to 53 centimeters); brown (10YR 5/3) gravelly clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few very fine roots; few very fine tubular and interstitial pores; few faint clay films on faces of peds and along surfaces of pores; neutral (pH 7.0); abrupt wavy boundary.
- Cr—21 to 31 inches (53 to 79 centimeters); moderately cemented, highly fractured shale.

Range in characteristics

The depth to paralithic contact is 20 to 40 inches (51 to 102 centimeters). About 10 to 40 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sandstone and/or shale.

A horizons:

- Hue—10YR dry and moist
- Value—4 dry and 2 moist
- Chroma—2 dry and moist
- Texture of the fine-earth fraction—loam or clay loam
- Content of clay—20 to 30 percent
- Content of organic matter—1.0 to 4.0 percent
- Reaction—neutral or slightly alkaline
- Content of rock fragments—5 to 15 percent 2- to 75-millimeter gravel

Bt horizons:

- Hue—10YR dry and moist
- Value—4 or 5 dry and 2 or 3 moist
- Chroma—2 or 3 dry and moist
- Texture of the fine-earth fraction—loam or clay loam
- Content of clay—20 to 35 percent
- Content of organic matter—0.05 to 1.5 percent
- Reaction—neutral or slightly alkaline
- Content of rock fragments—5 to 25 percent 2- to 75-millimeter gravel

Sodic Haplocambids, Thick

Sodic Haplocambids, thick, consist of very deep, well drained, saline-sodic soils that formed in uplifted lacustrine sediments and alluvium derived from sedimentary and/or granitoid rock. These soils are on hillslopes. Slope is 9 to 60 percent.

Typical pedon

In the survey area of Kern County, northwestern part; about 2,300 feet (701.0 meters) south and 100 feet (30.5 meters) east of the northwest corner of sec. 19, T. 30 S., R. 23 E.; Mount Diablo Base and Meridian; latitude 35 degrees 18 minutes 16 seconds north and longitude 119 degrees 33 minutes 14 seconds west; USGS West Elkhills, California, Quadrangle, NAD83.

This pedon is representative of the thick Sodic Haplocambids in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A—0 to 3 inches (0 to 8 centimeters); very pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; weak medium platy and moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine interstitial and tubular and common fine tubular pores; electrical conductivity of 2; sodium adsorption ratio of 10; strongly effervescent; carbonates disseminated; 2 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear smooth boundary.
- Bw—3 to 12 inches (8 to 30 centimeters); very pale brown (10YR 7/3) loam, yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure parting to weak medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine interstitial and tubular and common fine tubular pores; electrical conductivity of 2; sodium adsorption ratio of 10; strongly effervescent; carbonates disseminated; 2 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.4); gradual wavy boundary.
- Bk—12 to 18 inches (30 to 46 centimeters); very pale brown (10YR 7/3) loam, yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure parting to weak medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine and few fine tubular and few very fine interstitial pores; electrical conductivity of 10; sodium adsorption ratio of 26; violently effervescent; carbonates disseminated; 2 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.4); clear smooth boundary.
- Bknz1—18 to 24 inches (46 to 61 centimeters); very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; common very fine and fine tubular and few very fine interstitial pores; electrical conductivity of 10; sodium adsorption ratio of 26; violently effervescent; carbonates disseminated; 2 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.6); clear smooth boundary.
- Bknz2—24 to 27 inches (61 to 69 centimeters); very pale brown (10YR 7/4) fine sandy loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine interstitial pores; electrical conductivity of 10; sodium adsorption ratio of 26; violently effervescent; carbonates disseminated; 2 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); clear smooth boundary.
- Bnzy—27 to 42 inches (69 to 107 centimeters); very pale brown (10YR 7/4) silty clay, yellowish brown (10YR 5/4) moist; moderate medium platy structure parting to moderate thin platy; hard, very friable, moderately sticky and moderately

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plastic; few very fine roots; few very fine interstitial and tubular pores; electrical conductivity of 10; sodium adsorption ratio of 26; violently effervescent; carbonates disseminated; 2 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.6); abrupt smooth boundary.

Bnz1—42 to 54 inches (107 to 137 centimeters); very pale brown (10YR 7/3) sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine interstitial and tubular pores; electrical conductivity of 10; sodium adsorption ratio of 26; violently effervescent; carbonates disseminated; 2 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.6); abrupt smooth boundary.

Bnz2—54 to 60 inches (137 to 152 centimeters); light yellowish brown (10YR 6/4) sandy clay loam, yellowish brown (10YR 5/6) moist; weak medium subangular blocky structure; very hard, firm, slightly sticky and slightly plastic; few very fine interstitial pores; electrical conductivity of 10; sodium adsorption ratio of 26; violently effervescent; carbonates disseminated; 2 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.6).

Range in characteristics

About 0 to 10 percent of the surface is covered by 2- to 75-millimeter gravel consisting of granitoid and/or sedimentary rock. The content of gypsum is 0 to 2 percent throughout the profile.

A horizon:

Hue—10YR dry and moist
Value—5 or 6 dry and 4 or 5 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—7 to 18 percent
Content of organic matter—1.0 to 1.75 percent
Electrical conductivity—1 to 4 decisiemens per meter
Sodium adsorption ratio—4 to 12
Calcium carbonate equivalent—1 to 3 percent
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—0 to 5 percent 2- to 75-millimeter gravel

Bw horizon:

Hue—10YR dry and moist
Value—5 to 7 dry and 4 to 6 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—7 to 18 percent
Content of organic matter—0.5 to 1.0 percent
Electrical conductivity—1 to 4 decisiemens per meter
Sodium adsorption ratio—4 to 12
Calcium carbonate equivalent—1 to 3 percent
Reaction—moderately alkaline to very strongly alkaline
Content of rock fragments—0 to 5 percent 2- to 75-millimeter gravel

Bk horizon:

Hue—10YR dry and moist
Value—5 to 7 dry and 4 to 6 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—7 to 18 percent
Content of organic matter—0.25 to 0.75 percent
Electrical conductivity—4 to 16 decisiemens per meter

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Sodium adsorption ratio—13 to 26
Calcium carbonate equivalent—1 to 3 percent
Reaction—moderately alkaline to very strongly alkaline
Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

Bknz, Bnzy, and Bnz horizons:

Hue—10YR dry and moist
Value—5 to 7 dry and 4 to 6 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam, fine sandy loam, loam, clay loam, sandy clay loam, silt loam, or silty clay; stratified in the Bknz horizons in some pedons
Content of clay—7 to 50 percent
Content of organic matter—0.1 to 0.6 percent
Electrical conductivity—4 to 16 decisiemens per meter
Sodium adsorption ratio—13 to 40
Calcium carbonate equivalent—1 to 4 percent
Reaction—moderately alkaline to very strongly alkaline
Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

Stutzville Series

The Stutzville series consists of very deep, poorly drained soils that formed in alluvium derived from sedimentary rock. These soils are on basin floors. Slope is 0 to 2 percent. Stutzville soils are classified as fine-loamy, mixed, superactive, thermic Typic Haplosalids.

Typical pedon

In the northern Santa Barbara survey area, map unit Szc, Stutzville silty clay loam, strongly alkaline; Santa Barbara County, California; about 3 miles (4.8 kilometers) east of the Cuyama Ranch headquarters on State Highway 166 and 650 feet (198.1 meters) north of a ranch road; in an unsectionalized area; T. 10 N, R. 26 W.; San Bernardino Base and Meridian; latitude 34 degrees 57 minutes 34 seconds north and longitude 119 degrees 36 minutes 47 seconds west; USGS Cuyama, California, Quadrangle, NAD83.

- A—0 to 1 inch (0 to 3 centimeters); pale brown (10YR 6/3) silty clay loam, brown (10YR 5/3) moist; weak very thick platy structure parting to thick platy; hard, friable, moderately sticky and moderately plastic; few fine roots; common fine interstitial pores; electrical conductivity of 12.0 decisiemens per meter; sodium adsorption ratio of 10; salts disseminated; strongly effervescent; carbonates disseminated; strongly alkaline (pH 8.5); abrupt smooth boundary.
- Bnz—1 to 7 inches (3 to 18 centimeters); pale brown (10YR 6/3) silty clay loam, dark brown (10YR 4/3) moist; strong very coarse prismatic structure; very hard, firm, moderately sticky and moderately plastic; few fine and many medium roots; few fine tubular and many medium and coarse interstitial pores; electrical conductivity of 30.0 decisiemens per meter; sodium adsorption ratio of 13; salts segregated as few distinct coatings on faces of peds; strongly effervescent; carbonates disseminated; strongly alkaline (pH 8.5); abrupt wavy boundary.
- Cnz1—7 to 35 inches (18 to 89 centimeters); dark brown (10YR 4/3) silty clay loam, dark brown (10YR 4/3) moist; massive; hard, friable, moderately sticky and moderately plastic; many medium and coarse and few fine roots; few fine tubular and few medium and coarse interstitial pores; electrical conductivity of 30.0 decisiemens per meter; sodium adsorption ratio of 13; salts segregated as many

distinct coatings on faces of peds; strongly effervescent; carbonates disseminated; strongly alkaline (pH 8.5); gradual irregular boundary.

Cnz2—35 to 48 inches (89 to 122 centimeters); brown (10YR 5/3) silty clay, dark brown (10YR 4/3) moist; massive; very hard, firm, moderately sticky and moderately plastic; many medium and coarse and few fine roots; many medium, fine, and very fine tubular pores; electrical conductivity of 30.0 decisiemens per meter; sodium adsorption ratio of 13; salts segregated as many fine dendritic deposits; strongly effervescent; carbonates disseminated and segregated as many coarse spherical bodies; strongly alkaline (pH 8.5); gradual irregular boundary.

Cnz3—48 to 66 inches (122 to 168 centimeters); light yellowish brown (10YR 6/4) silty clay, dark yellowish brown (10YR 4/4) moist; massive; very hard, firm, moderately sticky and moderately plastic; very few very fine, fine, medium, and coarse roots; few fine tubular pores; many very coarse redoximorphic features, dark grayish brown (10YR 4/4), grayish brown (10YR 5/2), yellowish brown (10YR 5/4), light gray (10YR 7/1), dark red (2.5YR 3/6), red (2.5YR 5/6), and light red (2.5YR 7/6) moist; 0.5- to 1.5-inch (2- to 4-centimeter) pockets of very pale brown (10YR 7/4) sand with common coarse redoximorphic features, dark brown (10YR 3/3) moist; electrical conductivity of 30.0 decisiemens per meter; sodium adsorption ratio of 13; salts segregated as many fine dendritic and coarse spherical deposits; strongly effervescent; carbonates disseminated; strongly alkaline (pH 8.5); abrupt wavy boundary.

2Cnz4—66 to 72 inches (168 to 183 centimeters); grayish brown (10YR 6/4) silty clay, dark yellowish brown (2.5Y 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine interstitial pores; many coarse redoximorphic features, dark reddish brown (2.5YR 3/3), reddish brown (2.5YR 5/3), and light gray (7.5YR 7/1) moist; electrical conductivity of 30.0 decisiemens per meter; sodium adsorption ratio of 13; very slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.0).

Range in characteristics

In some pedons the Bnz and 2Cnz horizons are stratified with textures ranging from fine sand to silty clay. Some areas of these soils have been reclaimed. In these areas, drainage is improved and salts in the upper 25 inches (64 centimeters) have been reduced.

A horizon:

Hue—10YR or 2.5Y dry and moist

Value—5 to 7 dry and 4 or 5 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—loam, clay loam, or silty clay loam

Content of clay—15 to 35 percent

Content of organic matter—0.5 to 1.25 percent

Electrical conductivity—8 to 30 decisiemens per meter

Sodium adsorption ratio—2 to 20

Content of gypsum—0 to 2 percent

Calcium carbonate equivalent—0 to 5 percent

Reaction—moderately alkaline to very strongly alkaline

Bnz horizon:

Hue—10YR or 2.5Y dry and moist

Value—5 to 7 dry and 4 or 5 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—loam, clay loam, silty clay loam, or silty clay

Content of clay—15 to 35 percent

Content of organic matter—0.4 to 0.6 percent

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Electrical conductivity—16 to 50 decisiemens per meter
Sodium adsorption ratio—2 to 40
Content of gypsum—0 to 5 percent
Calcium carbonate equivalent—5 to 10 percent
Reaction—moderately alkaline to very strongly alkaline

Cnz and 2Cnz horizons:

Hue—10YR or 2.5Y dry and moist
Value—4 to 6 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—fine sand, loamy sand, sandy loam, loam, silt loam, silty clay loam, or silty clay
Content of clay—5 to 50 percent
Content of organic matter—0.05 to 0.5 percent
Electrical conductivity—16 to 50 decisiemens per meter
Sodium adsorption ratio—2 to 40
Content of gypsum—0 to 5 percent
Calcium carbonate equivalent—0 to 10 percent
Reaction—moderately alkaline to very strongly alkaline

Tecuya Series

The Tecuya series consists of very deep, well drained soils that formed in residuum derived from calcareous sandstone, shale, and/or conglomerate. These soils are on hillslopes. Slope is 9 to 50 percent. Tecuya soils are classified as loamy-skeletal, mixed, superactive, thermic Typic Calcixerolls.

Typical pedon

In map unit 461, Geghus-Tecuya association, 30 to 75 percent slopes; Kern County, California; about 1.1 miles (1.8 kilometers) northeast of Grapevine; 1,430 feet (435.9 meters) south and 570 feet (173.7 meters) east of the northeast corner of sec. 22 (projected onto the land grant), T. 10 N., R. 19 W.; San Bernardino Base and Meridian; latitude 34 degrees 56 minutes 15 seconds north and longitude 118 degrees 54 minutes 15 seconds west; USGS Grapevine, California, Quadrangle, NAD83.

- A1—0 to 3 inches (0 to 8 centimeters); brown (10YR 5/3) cobbly silt loam, dark brown (10YR 3/3) moist; moderate medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; calcium carbonate equivalent of 4 percent; violently effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel and 5 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.0); abrupt smooth boundary.
- A2—3 to 9 inches (8 to 23 centimeters); brown (10YR 5/3) cobbly silt loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure, slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; calcium carbonate equivalent of 4 percent; violently effervescent; carbonates segregated as few fine threads; 10 percent 2- to 75-millimeter gravel and 5 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2); clear wavy boundary.
- Bk1—9 to 28 inches (23 to 71 centimeters); very pale brown (10YR 8/4) very cobbly silt loam, light yellowish brown (10YR 6/4) moist; weak medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine roots; common very fine and fine tubular pores; calcium carbonate equivalent of 8 percent; violently effervescent; carbonates disseminated and segregated as many fine threads and few medium soft masses; 10 percent 2- to

75-millimeter gravel and 30 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—28 to 38 inches (71 to 97 centimeters); very pale brown (10YR 8/4) very cobbly loam, light yellowish brown (10YR 6/4) moist; weak coarse subangular blocky structure parting to weak medium subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine and fine tubular pores; calcium carbonate equivalent of 8 percent; strongly effervescent; carbonates disseminated and segregated as few fine threads and few medium soft masses; 10 percent 2- to 75-millimeter gravel and 30 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2); clear wavy boundary.

Bk3—38 to 60 inches (97 to 152 centimeters); very pale brown (10YR 8/3) extremely gravelly loam, brown (10YR 6/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine tubular pores; calcium carbonate equivalent of 8 percent; strongly effervescent; carbonates disseminated and segregated as few fine threads and medium soft masses; 90 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2).

Range in characteristics

The percentage of the surface covered by rock fragments is as follows: 2 to 30 percent by 2- to 75-millimeter gravel, 0 to 10 percent by 75- to 250-cobbles, 0 to 10 percent by 250- to 600-millimeter stones, and 0 to 2 percent by 600- to 3,000-millimeter boulders consisting of sedimentary rock.

A horizons:

Hue—10YR dry and moist

Value—4 or 5 dry and 3 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—loam or silt loam

Content of clay—5 to 18 percent

Content of organic matter—1.0 to 2.0 percent

Calcium carbonate equivalent—2 to 5 percent

Reaction—slightly alkaline to strongly alkaline

Content of rock fragments—5 to 15 percent 2- to 75-millimeter gravel and 2 to 10 percent 75- to 250-millimeter cobbles

Bk horizons:

Hue—10YR dry and moist

Value—7 or 8 dry and 5 or 6 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—loam, clay loam, or silt loam

Content of clay—10 to 30 percent

Content of organic matter—0.1 to 1.3 percent

Calcium carbonate equivalent—5 to 10 percent

Reaction—slightly alkaline to strongly alkaline

Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel and 15 to 90 percent 75- to 250-millimeter cobbles

Tehachapi Series

The Tehachapi series consists of very deep, well drained soils that formed in alluvium derived from rocks of mixed mineralogy. These soils are on stream terraces. Slope is 2 to 30 percent. Tehachapi soils are classified as fine-loamy, mixed, active, thermic Typic Argixerolls.

Typical pedon

In map unit 530, Tehachapi loam, 2 to 5 percent slopes; Kern County, California; about 32 miles (51.5 kilometers) south of downtown Bakersfield; 18 feet (5.5 meters) south and 15 feet (4.6 meters) west of a corner post, south of a vineyard; about 600 feet (182.9 meters) north and 50 feet (15.2 meters) west of the southeast corner of sec. 13, T. 10 N., R. 19 W.; San Bernardino Base and Meridian; latitude 34 degrees 56 minutes 39 seconds north and longitude 118 degrees 51 minutes 04 seconds west; USGS Pastoria Creek, California, Quadrangle, NAD83.

A—0 to 1 inch (0 to 3 centimeters); dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; moderate medium platy structure; very hard, firm, slightly sticky and slightly plastic; many very fine roots; few very fine tubular pores; slightly acid (pH 6.3); abrupt smooth boundary.

Bt1—1 to 5 inches (3 to 13 centimeters); dark grayish brown (10YR 4/2) sandy clay loam, very dark grayish brown (10YR 3/2) moist; strong medium angular blocky structure; very hard, very friable, sticky and plastic; common very fine roots; few very fine tubular pores; few faint clay films on faces of ped and along surfaces of pores; slightly acid (pH 6.4); clear wavy boundary.

Bt2—5 to 19 inches (13 to 48 centimeters); dark grayish brown (10YR 4/2) sandy clay loam, very dark grayish brown (10YR 3/2) moist; strong medium prismatic structure; very hard, friable, sticky and plastic; common very fine roots; few very fine tubular pores; common distinct clay films on faces of ped and along surfaces of pores; neutral (pH 6.6); clear wavy boundary.

Bt3—19 to 24 inches (48 to 61 centimeters); dark brown (7.5YR 4/2) sandy clay loam, brown (7.5YR 4/2) moist; moderate medium angular blocky structure; hard, very friable, sticky and plastic; few very fine roots; common very fine tubular pores; common distinct clay films on faces of ped and along surfaces of pores; neutral (pH 6.8); clear irregular boundary.

2Bt4—24 to 34 inches (61 to 86 centimeters); brown (7.5YR 5/4 and 7.5YR 4/2) very stony sandy clay loam, brown (7.5YR 4/4) and dark brown (7.5YR 3/2) moist; moderate fine angular blocky structure; hard, very friable, very sticky and very plastic; common very fine tubular pores; common prominent clay films on faces of ped and along surfaces of pores; strongly effervescent; carbonates disseminated; 20 percent 2- to 75-millimeter gravel, 10 percent 75- to 250-millimeter cobbles, and 10 percent 250- to 600-millimeter stones; moderately alkaline (pH 8.0); gradual irregular boundary.

2Bt5—34 to 48 inches (86 to 122 centimeters); reddish brown (5YR 5/4) very stony sandy clay loam, reddish brown (5YR 4/4) moist; massive; hard, very friable, very sticky and very plastic; common very fine and few fine tubular pores; thick continuous clay films on faces of ped and lining pores; slightly effervescent; carbonates segregated as few fine threads; 15 percent 2- to 75-millimeter gravel, 15 percent 75- to 250-millimeter cobbles, and 25 percent 250- to 600-millimeter stones; slightly alkaline (pH 7.8); gradual irregular boundary.

2Bt6—48 to 60 inches (122 to 152 centimeters); reddish brown (5YR 5/4) extremely stony sandy clay loam, reddish brown (5YR 4/4) moist; massive; hard, very friable, slightly sticky and nonplastic; common very fine interstitial pores; common distinct clay films bridging sand grains; strongly effervescent; carbonates disseminated; 25 percent 2- to 75-millimeter gravel, 15 percent 75- to 250-millimeter cobbles, and 25 percent 250- to 600-millimeter stones; slightly alkaline (pH 7.8).

Range in characteristics

The percentage of the surface covered by rock fragments is as follows: 0 to 30 percent by 2- to 75-millimeter gravel, 0 to 5 percent by 75- to 250-millimeter cobbles,

and 0 to 5 percent by 250- to 600-millimeter stones consisting of rocks of mixed mineralogy.

A horizon:

Hue—10YR dry and moist
Value—2 to 4 dry and moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—15 to 25 percent
Content of organic matter—2 to 3 percent
Reaction—slightly acid or neutral
Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel, 0 to 3 percent 75- to 250-millimeter cobbles, and 0 to 3 percent 250- to 600-millimeter stones

Bt and 2Bt horizons:

Hue—10YR, 5YR, or 7.5YR dry and moist
Value—4 or 5 dry and 3 or 4 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy clay loam or clay loam
Content of clay—20 to 35 percent
Content of organic matter—0.05 to 1.75 percent
Reaction—slightly acid to moderately alkaline
Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel, 0 to 20 percent 75- to 250-millimeter cobbles, and 0 to 30 percent 250- to 600-millimeter stones

Some pedons have a C horizon, which has features similar to those of the Bt horizons.

Tennco Series

The Tennco series consists of very deep, well drained soils that formed in alluvium derived dominantly from granitoid rock. These soils are on nonburied fan remnants. Slope is 0 to 1 percent. Tennco soils are classified as coarse-loamy, mixed, superactive, thermic Typic Natrargids.

Typical pedon

In map unit 300, Tennco fine sandy loam, 0 to 1 percent slopes; Kern County, California; about 6 miles (9.7 kilometers) east of the Old River; 280 feet (85.3 meters) south and 250 feet (76.2 meters) east of the northwest corner of sec. 5, T. 31 S., R. 26 E.; Mount Diablo Base and Meridian; latitude 35 degrees 15 minutes 59 seconds north and longitude 119 degrees 12 minutes 58 seconds west; USGS Stevens, California, Quadrangle, NAD83.

A—0 to 1 inch (0 to 3 centimeters); light brownish gray (2.5Y 6/2) fine sandy loam, dark grayish brown (2.5Y 4/2) moist; weak thick platy structure parting to moderate fine subangular blocky; soft, very friable, nonsticky and nonplastic; many very fine roots; common very fine tubular and interstitial pores; electrical conductivity of 13.6 decisiemens per meter; sodium adsorption ratio of 219; neutral (pH 7.2); abrupt smooth boundary.

Enz—1 to 5 inches (3 to 13 centimeters); pale yellow (2.5Y 7/4) sandy loam, light olive brown (2.5Y 5/4) moist; moderate very coarse columnar structure; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine and few fine vesicular pores; electrical conductivity of 14.7 decisiemens per meter; sodium

adsorption ratio of 462; slightly effervescent; carbonates disseminated; very strongly alkaline (pH 9.2); abrupt smooth boundary.

Btnz—5 to 13 inches (13 to 33 centimeters); light gray (2.5Y 7/2) sandy loam, olive brown (2.5Y 4/4) moist; strong very coarse prismatic structure; hard, friable, moderately sticky and slightly plastic; common very fine and few fine and medium roots; common very fine tubular and interstitial and few fine and medium tubular pores; electrical conductivity of 16.4 decisiemens per meter; sodium adsorption ratio of 362; few thin clay films bridging mineral grains; slightly effervescent; carbonates disseminated; very strongly alkaline (pH 10.2); abrupt smooth boundary.

Bnz1—13 to 18 inches (33 to 46 centimeters); light gray (2.5Y 7/2) sandy loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular and interstitial and few fine and medium tubular pores; electrical conductivity of 18.4 decisiemens per meter; sodium adsorption ratio of 590; slightly effervescent; carbonates disseminated; very strongly alkaline (pH 10.2); abrupt smooth boundary.

Bnz2—18 to 25 inches (46 to 64 centimeters); light gray (2.5Y 7/2) silt loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and few fine and medium tubular pores; electrical conductivity of 18.8 decisiemens per meter; sodium adsorption ratio of 378; slightly effervescent; carbonates disseminated; very strongly alkaline (pH 10.0); clear smooth boundary.

Bnz3—25 to 45 inches (64 to 114 centimeters); light gray (2.5Y 7/2) loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine, common fine, and few medium tubular pores; electrical conductivity of 0.6 decisiemen per meter; sodium adsorption ratio of 9; slightly effervescent; carbonates disseminated; very strongly alkaline (pH 10.0); clear smooth boundary.

Bnz4—45 to 60 inches (114 to 152 centimeters); pale yellow (2.5Y 7/4) loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and few fine tubular pores; electrical conductivity of 8.9 decisiemens per meter; sodium adsorption ratio of 46; very slightly effervescent; carbonates disseminated and segregated as few fine soft masses; very strongly alkaline (pH 10.2).

Range in characteristics

The values for electrical conductivity and sodium absorption ratio in the range in characteristics refer to areas that are not reclaimed. The values are lower in reclaimed areas.

A horizon:

Hue—10YR or 2.5Y dry and moist

Value—5 to 7 dry and 3 to 5 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—fine sandy loam or very fine sandy loam

Content of clay—10 to 18 percent

Content of organic matter—0.75 to 1.5 percent

Electrical conductivity—10 to 20 decisiemens per meter

Sodium adsorption ratio—200 to 300

Reaction—neutral to moderately alkaline

E horizon:

Hue—10YR or 2.5Y dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—sandy loam or fine sandy loam
Content of clay—4 to 10 percent
Content of organic matter—0.05 to 0.2 percent
Electrical conductivity—10 to 20 decisiemens per meter
Sodium adsorption ratio—200 to 500
Reaction—strongly alkaline or very strongly alkaline

Btnz horizon:

Hue—10YR or 2.5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam or fine sandy loam
Content of clay—14 to 18 percent
Content of organic matter—0.05 to 0.2 percent
Electrical conductivity—10 to 20 decisiemens per meter
Sodium adsorption ratio—200 to 500
Reaction—strongly alkaline or very strongly alkaline

Bnz horizons:

Hue—10YR or 2.5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—loam or silt loam
Content of clay—5 to 18 percent
Content of organic matter—0.05 to 0.2 percent
Electrical conductivity—0.5 to 20 decisiemens per meter
Sodium adsorption ratio—5 to 600
Reaction—strongly alkaline or very strongly alkaline

Torriorthents, Thin

Torriorthents, thin, consist of very deep, well drained, saline-sodic soils that formed in uplifted alluvium derived from sandstone, shale, and/or granitoid rock. These soils are on hillslopes. Slope is 15 to 60 percent.

Typical pedon

In map unit 735, Sodic Haplocambids, thick-Elkhills-Torriorthents, thin, complex, 30 to 60 percent slopes; Kern County, California; about 5.25 miles (8.5 kilometers) northeast of Taft; 500 feet (152.4 meters) north and 2,300 feet (701.0 meters) east of the southwest corner of sec. 11, T. 32 S., R. 24 E.; Mount Diablo Base and Meridian; latitude 35 degrees 09 minutes 13 seconds north and longitude 119 degrees 22 minutes 07 seconds west; USGS Mouth of Kern, California, Quadrangle, NAD83.

This pedon is representative of the thin Torriorthents in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A1—0 to 2 inches (0 to 5 centimeters); very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; moderate thick platy structure parting to moderate medium platy; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular and few very fine interstitial pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.
- A2—2 to 9 inches (5 to 23 centimeters); very pale brown (10YR 7/3) loam, yellowish brown (10YR 5/4) moist; moderate coarse prismatic structure parting to moderate medium prismatic and then to moderate medium subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular and few very fine interstitial pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt wavy boundary.

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- Bnz1**—9 to 17 inches (23 to 43 centimeters); light brownish gray (2.5Y 6/2) clay loam, grayish brown (2.5Y 5/2) moist; moderate coarse prismatic structure parting to moderate medium prismatic; soft, friable, sticky and plastic; few very fine tubular pores; many fine prominent brownish yellow (10YR 6/6) redoximorphic features, dark yellowish brown (10YR 4/6) moist; 1-inch (2.5-centimeter) layer of gypsum at the upper boundary; few fine threads of gypsum; moderately alkaline (pH 8.4); abrupt wavy boundary.
- Bnz2**—17 to 28 inches (43 to 71 centimeters); light gray (5Y 7/2) clay loam, olive gray (5Y 5/2) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; slightly hard, friable, moderately sticky and moderately plastic; many fine prominent light brown (7.5YR 6/4) redoximorphic features, brown (7.5YR 4/4) moist; common cylindrical elongated bodies of gypsum; moderately alkaline (pH 8.4); abrupt smooth boundary.
- Bnz3**—28 to 38 inches (71 to 97 centimeters); pale yellow (2.5Y 7/3) sandy loam, light olive brown (2.5Y 5/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine interstitial pores; common fine prominent brownish yellow (10YR 6/6) redoximorphic features, dark yellowish brown (10YR 4/6) moist; moderately alkaline (pH 8.4) abrupt smooth boundary.
- Bnz4**—38 to 41 inches (97 to 104 centimeters); light gray (5Y 7/1) silty clay, olive gray (5Y 5/2) moist; massive; hard, friable, very sticky and very plastic; few very fine tubular pores; common fine prominent brownish yellow (10YR 6/6) redoximorphic features, dark yellowish brown (10YR 4/6) moist; strongly alkaline (pH 8.6); abrupt wavy boundary.
- Bnz5**—41 to 60 inches (104 to 152 centimeters); light gray (5Y 7/2) clay, olive gray (5Y 5/2) moist; massive; very hard, firm, very sticky and very plastic; many fine prominent light brown (7.5YR 6/4) and common fine prominent black (7.5YR 2.5/1) redoximorphic features, brown (7.5YR 4/4) and black (7.5YR 2.5/1) moist; strongly alkaline (pH 8.6)

Range in characteristics

A horizons:

- Hue—10YR, 2.5Y, or 5Y dry and moist
- Value—6 or 7 dry and 4 or 5 moist
- Chroma—1 to 4 dry and moist
- Texture of the fine-earth fraction—sandy loam or loam
- Content of clay—15 to 27 percent
- Content of organic matter—0.5 to 1.25 percent
- Electrical conductivity—2 to 10 decisiemens per meter
- Sodium adsorption ratio—1 to 100
- Calcium carbonate equivalent—0 to 2 percent
- Content of gypsum—0 to 1 percent
- Reaction—moderately alkaline or strongly alkaline

Bnz horizons:

- Hue—10YR, 2.5Y, or 5Y dry and moist
- Value—6 to 8 dry and 4 to 7 moist
- Chroma—1 to 4 dry and moist
- Texture of the fine-earth fraction—loamy coarse sand, sandy loam, fine sandy loam, clay loam, clay, or silty clay
- Content of clay—6 to 50 percent
- Content of organic matter—0.05 to 0.6 percent
- Electrical conductivity—20 to 29 decisiemens per meter
- Sodium adsorption ratio—100 to 300
- Calcium carbonate equivalent—0 to 3 percent

Content of gypsum—0 to 3 percent
Reaction—moderately alkaline or strongly alkaline

Torriorthents, Very Thin

Torriorthents, very thin, consist of moderately deep, well drained soils that formed in lacustrine deposits and alluvium derived from granitoid and sedimentary rock. These soils are on hillslopes. Slope is 15 to 60 percent.

Typical pedon

In map unit 734, Sodic Haplocambids, thick-Torriorthents, very thin, eroded-Elkhills complex, 15 to 50 percent slopes; Kern County, California; about 4.4 miles (7.1 kilometers) east of Taft; about 650 feet (198.1 meters) south and 1,100 feet (335.3 meters) east of the northwest corner of sec. 14, T. 32 S., R. 24 E.; Mount Diablo Base and Meridian; latitude 35 degrees 09 minutes 02 seconds north and longitude 119 degrees 22 minutes 19 seconds west; USGS Mouth of Kern, California, Quadrangle, NAD83.

This pedon is representative of the very thin Torriorthents in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- Anz—0 to 7 inches (0 to 18 centimeters); pale yellow (2.5Y 7/3) clay loam, light olive brown (2.5Y 5/3) moist; moderate very coarse subangular blocky structure parting to moderate coarse subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine tubular and common very fine interstitial pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.4); clear wavy boundary.
- Bknz1—7 to 16 inches (18 to 41 centimeters); pale yellow (2.5Y 7/3) clay loam, light olive brown (2.5Y 5/4) moist; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular and few very fine interstitial pores; strongly effervescent; carbonates disseminated and segregated as common fine threads; many large masses of gypsum; strongly alkaline (pH 8.8); clear wavy boundary.
- Bknz2—16 to 23 inches (41 to 58 centimeters); pale yellow (2.5Y 7/3) clay loam, light olive brown (2.5Y 5/4) moist; massive; soft, very friable, moderately sticky and moderately plastic; few fine interstitial pores; strongly effervescent; carbonates disseminated and segregated as many fine threads; few large masses of gypsum; strongly alkaline (pH 8.6); clear wavy boundary.
- Bnz—23 to 33 inches (58 to 84 centimeters); light yellowish brown (2.5Y 6/4) clay loam, light olive brown (2.5Y 5/4) moist; massive; soft, very friable, moderately sticky and moderately plastic; common very fine interstitial pores; strongly effervescent; carbonates disseminated; many large masses of gypsum; strongly alkaline (pH 8.6); clear wavy boundary.
- Cr—33 to 60 inches (84 to 152 centimeters); very weakly cemented sedimentary rock.

Range in characteristics

The depth to paralithic contact is 20 to 40 inches (51 to 102 centimeters). About 0 to 50 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sedimentary rock, lake sediments, and/or granitoid rock.

A horizon:

Hue—10YR or 2.5Y dry and moist
Value—5 to 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—sandy loam, loam, or clay loam
Content of organic matter—0.4 to 1.0 percent
Electrical conductivity—10 to 29 decisiemens per meter
Sodium adsorption ratio—20 to 60
Calcium carbonate equivalent—2 to 4 percent
Content of gypsum—0 to 2 percent
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel

B horizons:

Hue—10YR or 2.5Y dry and moist
Value—6 to 8 dry and 4 to 6 moist
Chroma—2 to 6 dry and moist
Texture of the fine-earth fraction—sandy loam, loam, clay loam, silty clay loam, or clay
Content of organic matter—0.05 to 0.4 percent
Electrical conductivity—15 to 29 decisiemens per meter
Sodium adsorption ratio—20 to 150
Calcium carbonate equivalent—2 to 4 percent
Content of gypsum—2 to 4 percent
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel

In some pedons the B horizons are stratified. Some pedons are weakly cemented from a depth of 10 to 30 inches (25 to 76 centimeters)

Torriorthents, Very Thin, Eroded

Torriorthents, very thin, eroded, consist of moderately deep, well drained soils that formed in lacustrine deposits and alluvium derived from granitoid and sedimentary rock. These soils are on hillslopes. Slope is 15 to 60 percent.

Typical pedon

In map unit 734, Sodic Haplocambids, thick-Torriorthents, very thin, eroded-Elkhills complex, 15 to 50 percent slopes; Kern County, California; about 4.4 miles (7.1 kilometers) east of Taft; about 650 feet (198.1 meters) south and 1,100 feet (335.3 meters) east of the northwest corner of sec. 14, T. 32 S., R. 24 E.; Mount Diablo Base and Meridian; latitude 35 degrees 09 minutes 02 seconds north and longitude 119 degrees 22 minutes 19 seconds west; USGS Mouth of Kern, California, Quadrangle, NAD83.

This pedon is representative of the very thin, eroded Torriorthents in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

Anz—0 to 1 inch (0 to 3 centimeters); pale yellow (2.5Y 7/3) clay loam, light olive brown (2.5Y 5/3) moist; moderate very coarse subangular blocky structure parting to moderate coarse subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine tubular and common very fine interstitial pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.4); clear wavy boundary.
Bknz1—1 to 16 inches (3 to 41 centimeters); pale yellow (2.5Y 7/3) clay loam, light olive brown (2.5Y 5/4) moist; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular and few very fine interstitial pores; strongly effervescent; carbonates disseminated and

segregated as common fine threads; many large masses of gypsum; strongly alkaline (pH 8.8); clear wavy boundary.

Bknz2—16 to 23 inches (41 to 58 centimeters); pale yellow (2.5Y 7/3) clay loam, light olive brown (2.5Y 5/4) moist; massive; soft, very friable, moderately sticky and moderately plastic; few fine interstitial pores; strongly effervescent; carbonates disseminated and segregated as many fine threads; few large masses of gypsum; strongly alkaline (pH 8.6); clear wavy boundary.

Bnz—23 to 33 inches (58 to 84 centimeters); light yellowish brown (2.5Y 6/4) clay loam, light olive brown (2.5Y 5/4) moist; massive; soft, very friable, moderately sticky and moderately plastic; common very fine interstitial pores; strongly effervescent; carbonates disseminated; many large masses of gypsum; strongly alkaline (pH 8.6); clear wavy boundary.

Cr—33 to 60 inches (84 to 152 centimeters); very weakly cemented sedimentary rock.

Range in characteristics

The depth to paralithic contact is 20 to 40 inches (51 to 102 centimeters). About 0 to 50 percent the surface is covered by 2- to 75-millimeter gravel consisting of sedimentary rock, lake sediments, and/or granitoid rock.

A horizon:

Hue—10YR or 2.5Y dry and moist

Value—5 to 7 dry and 4 or 5 moist

Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—sandy loam, loam, or clay loam

Content of organic matter—0.4 to 1.0 percent

Electrical conductivity—10 to 29 decisiemens per meter

Sodium adsorption ratio—20 to 60

Calcium carbonate equivalent—2 to 4 percent

Content of gypsum—0 to 2 percent

Reaction—moderately alkaline or strongly alkaline

Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel

B horizons:

Hue—10YR or 2.5Y dry and moist

Value—6 to 8 dry and 4 to 6 moist

Chroma—2 to 6 dry and moist

Texture of the fine-earth fraction—clay loam, silty clay loam, or clay

Content of organic matter—0.1 to 0.4 percent

Electrical conductivity—15 to 29 decisiemens per meter

Sodium adsorption ratio—20 to 150

Calcium carbonate equivalent—2 to 4 percent

Content of gypsum—2 to 4 percent

Reaction—moderately alkaline or strongly alkaline

Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel

Tupman Series

The Tupman series consists of very deep, well drained soils that formed in alluvium derived from granitoid and/or sedimentary rock. These soils are on fan remnants and stream terraces. Slope is 0 to 5 percent. Tupman soils are classified as coarse-loamy, mixed, superactive, thermic Fluventic Haplocambids.

Typical pedon

In map unit 153, Tupman gravelly sandy loam, 0 to 2 percent slopes; Kern County, California; about 5.8 miles (9.3 kilometers) west of downtown Taft; about 500 feet

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(152.4 meters) east of Gardner Field Road at a point 2.0 miles (3.2 kilometers) north of Cadet Road; 280 feet (85.3 meters) north and 220 feet (67.1 meters) west of the southeast corner of sec. 23, T. 32 S., R. 24 E.; Mount Diablo Base and Meridian; latitude 35 degrees 07 minutes 26 seconds north and longitude 119 degrees 21 minutes 35 seconds west; USGS Pentland, California, Quadrangle, NAD83.

- Ap—0 to 6 inches (0 to 15 centimeters); light gray (2.5Y 7/2) gravelly sandy loam, light olive brown (2.5Y 4/3) moist; weak coarse cloddy structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and few fine interstitial pores; 32 percent 2- to 75-millimeter gravel; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.
- Bw—6 to 14 inches (15 to 36 centimeters); light gray (2.5Y 7/2) sandy loam, light olive brown (2.5Y 4/3) moist; weak very coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine and few fine tubular pores; 12 percent 2- to 25-millimeter gravel; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.
- C1—14 to 30 inches (36 to 76 centimeters); light gray (2.5Y 7/2) and pale brown (10YR 6/3), stratified very gravelly coarse sand to gravelly silt loam, light olive brown (2.5Y 5/4) and brown (10YR 4/3) moist; massive; soft and slightly hard, very friable and friable, nonsticky to sticky and nonplastic to plastic; few very fine roots; common very fine tubular and many very fine, many fine, and common medium interstitial pores; 40 percent 2- to 25-millimeter gravel; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.
- C2—30 to 37 inches (76 to 94 centimeters); very pale brown (10YR 7/3) and light yellowish brown (2.5Y 6/4), stratified sandy loam to loam, gray (10YR 5/1) and olive brown (2.5Y 4/4) moist; massive; soft and slightly hard, very friable, nonsticky and slightly sticky and nonplastic and slightly plastic; many very fine and few fine interstitial pores in most of the horizon but few very fine tubular pores in strata of loam; 10 percent 2- to 25-millimeter gravel; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.
- C3—37 to 48 inches (94 to 122 centimeters); pale yellow (2.5Y 7/4) sandy loam, light olive brown (2.5Y 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common fine interstitial and tubular pores; 3 percent 2- to 25-millimeter gravel; violently effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.
- C4—48 to 60 inches (122 to 152 centimeters); pale yellow (2.5Y 7/4) and light olive brown (2.5Y 5/4) gravelly loamy sand, light olive brown (2.5Y 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; 30 percent 2- to 25-millimeter gravel; violently effervescent; carbonates disseminated and segregated as coatings on the underside of pebbles; moderately alkaline (pH 8.2).

Range in characteristics

Ap horizon:

Hue—10YR or 2.5Y dry and moist

Value—5 to 8 dry and 3 to 6 moist

Chroma—2 or 3 dry and 2 to 4 moist

Texture of the fine-earth fraction—sandy loam

Content of clay—10 to 18 percent

Content of organic matter—0.8 to 1.5 percent

Calcium carbonate equivalent—0 to 4 percent

Reaction—moderately alkaline

Content of rock fragments—20 to 40 percent 2- to 25-millimeter gravel

Bw horizon:

Hue—10YR or 2.5Y dry and moist
Value—5 to 8 dry and 3 to 6 moist
Chroma—2 or 3 dry and 2 to 4 moist
Texture of the fine-earth fraction—sandy loam
Content of clay—10 to 18 percent
Content of organic matter—0.5 to 0.9 percent
Calcium carbonate equivalent—0 to 4 percent
Reaction—moderately alkaline
Content of rock fragments—10 to 20 percent 2- to 25-millimeter gravel

C horizons:

Hue—10YR or 2.5Y dry and moist
Value—5 to 8 dry and 3 to 6 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—stratified very gravelly coarse sand to silt loam
Content of clay—5 to 18 percent
Content of organic matter—0.1 to 0.9 percent
Calcium carbonate equivalent—0 to 4 percent
Reaction—moderately alkaline
Content of rock fragments—0 to 50 percent 2- to 25-millimeter gravel

Typic Haploxeralfs, Fine

Typic Haploxeralfs, fine, consist of moderately deep, well drained soils that formed in residuum derived from sedimentary rock. These soils are on mountain slopes. Slope is 15 to 60 percent.

Typical pedon

In map unit 954, Typic Haploxeralfs, fine-Haploxerolls, coarse-loamy, complex, 15 to 60 percent slopes; Kern County, California; about 0.8 mile (1.3 kilometers) northwest of Blue Ridge; about 2,050 feet (624.8 meters) south and 1,350 feet (411.5 meters) west of the northeast corner of sec. 35, T. 10 N., R. 23 E.; San Bernardino Base and Meridian; latitude 34 degrees 54 minutes 37 seconds north and longitude 119 degrees 18 minutes 00 seconds west; USGS Santiago Creek, California, Quadrangle, NAD83.

This pedon is representative of the fine Typic Haploxeralfs in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A—0 to 1 inch (0 to 3 centimeters); yellowish brown (10YR 5/4) clay loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; very friable, hard, slightly sticky and slightly plastic; few fine and many very fine roots; many fine interstitial pores; few faint clay films on faces of peds and along surfaces of pores; slightly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; neutral (pH 7.0); clear smooth boundary.
- Bt1—1 to 12 inches (3 to 30 centimeters); light yellowish brown (10YR 6/4) clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common fine and many very fine roots; common fine interstitial and few fine tubular pores; slightly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel and 1 percent 75- to 250-millimeter cobbles; neutral (pH 7.0); clear wavy boundary.
- Bt2—12 to 19 inches (30 to 48 centimeters); light yellowish brown (10YR 6/4) very gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; hard, very friable,

moderately sticky and moderately plastic; few fine and few very fine roots; few fine interstitial and few medium tubular pores; slightly effervescent; carbonates disseminated; 40 percent 2- to 75-millimeter gravel and 10 percent 75- to 250-millimeter cobbles; neutral (pH 7.0); clear wavy boundary.

Bt3—19 to 24 inches (48 to 61 centimeters); light yellowish brown (10YR 6/4) very gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; few very fine roots; common very fine interstitial pores; slightly effervescent; carbonates disseminated; 15 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt wavy boundary.

Cr—24 to 34 inches (61 to 86 centimeters); moderately cemented marine sediments.

Range in characteristics

The depth to paralithic contact is 20 to 34 inches (51 to 86 centimeters). About 10 to 30 percent of the surface is covered by 2- to 75-millimeter gravel consisting of marine sedimentary rock.

A horizon:

Hue—10YR dry and moist

Value—4 or 5 dry and 3 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—clay loam or clay

Content of organic matter—1.0 to 2.0 percent

Reaction—neutral to strongly alkaline

Content of rock fragments—5 to 20 percent 2- to 75-millimeter gravel

Bt horizons:

Hue—10YR or 7.5YR dry and moist

Value—5 or 6 dry and 3 or 4 moist

Chroma—3 to 5 dry and moist

Texture of the fine-earth fraction—clay loam or clay

Content of organic matter—0.1 to 1.0 percent

Reaction—neutral to strongly alkaline

Content of rock fragments—0 to 60 percent 2- to 75-millimeter gravel and 0 to 20 percent 75- to 250-millimeter cobbles

Typic Xerorthents, Mesic

Typic Xerorthents, mesic, consist of moderately deep or deep, well drained soils that formed in colluvium derived from sandstone and/or shale. These soils are on hillslopes. Slope is 30 to 75 percent.

Typical pedon

In map unit 620, Typic Xerorthents, mesic-Haploxerepts-Xerorthents, sandy, association, 30 to 75 percent slopes; Kern County, California; about 30 miles (48.3 kilometers) south of downtown Bakersfield; about 1,500 feet (457.2 meters) south and 1,300 feet (396.2 meters) west of the northeast corner of sec. 32, T. 10 N., R. 20 W.; San Bernardino Base and Meridian; latitude 34 degrees 54 minutes 27 seconds north and longitude 119 degrees 01 minute 41 seconds west; USGS Pleito Hills, California, Quadrangle, NAD83.

This pedon is representative of the mesic Typic Xerorthents in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

A1—0 to 4 inches (0 to 10 centimeters); pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; weak medium subangular blocky structure parting to weak fine

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- subangular blocky; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; common very fine tubular pores; slightly alkaline (pH 7.8); strongly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.8); abrupt wavy boundary.
- A2—4 to 9 inches (10 to 23 centimeters); light yellowish brown (10YR 6/4) loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine and few fine tubular pores; strongly effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); clear wavy boundary.
- C1—9 to 18 inches (23 to 46 centimeters); very pale brown (10YR 7/3) gravelly loam, brown (10YR 5/3) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; many very fine and common fine tubular pores; strongly effervescent; carbonates disseminated; 20 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.4); abrupt irregular boundary.
- C2—18 to 24 inches (46 to 61 centimeters); very pale brown (10YR 7/3) gravelly loam, brown (10YR 5/3) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; common very fine and few fine tubular pores; 30 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.3); abrupt irregular boundary.
- C3—24 to 34 inches (61 to 86 centimeters); yellow (10YR 7/6) very gravelly loam, yellowish brown (10YR 5/6) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine, fine, medium, coarse, and very coarse roots; common very fine tubular pores; 50 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.7); abrupt irregular boundary.
- Cr—34 to 44 inches (86 to 112 centimeters); moderately cemented sandstone.

Range in characteristics

The depth to paralithic contact is 24 to 44 inches (61 to 111 centimeters). About 5 to 20 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sandstone fragments.

A horizons:

Hue—10YR dry and moist
Value—4 to 6 dry and moist
Chroma—3 to 5 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—8 to 18 percent
Content of organic matter—0.6 to 1.5 percent
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—5 to 20 percent 2- to 75-millimeter gravel

C horizons:

Hue—10YR dry and moist
Value—5 to 7 dry and 4 or 5 moist
Chroma—3 to 6 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—8 to 18 percent
Content of organic matter—0.05 to 0.7 percent
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—10 to 65 percent 2- to 75-millimeter gravel

Vineland Series

The Vineland series consists of very deep, somewhat excessively drained soils that formed in alluvium derived from granitoid rock. These soils had a high water table when they formed, but they are now drained. They are on flood plains. Slope is 0 to 1 percent. Vineland soils are classified as sandy, mixed, thermic Typic Torrifluvents.

Typical pedon

In map unit 310, Vineland loamy sand, drained, 0 to 1 percent slopes; Kern County, California; about 13 miles (20.9 kilometers) south-southwest of downtown Bakersfield; 1.5 miles (2.4 kilometers) south of Bear Mountain Boulevard and 1.2 miles (1.9 kilometers) east of Old River Road; 2,530 feet (771.1 meters) south and 1,560 feet (475.5 meters) east of the northwest corner of sec. 33, T. 31 S., R. 27 E.; Mount Diablo Base and Meridian; latitude 35 degrees 11 minutes 14 seconds north and longitude 119 degrees 05 minutes 14 seconds west; USGS Conner, California, Quadrangle, NAD83.

- Ap—0 to 6 inches (0 to 15 centimeters); grayish brown (2.5Y 5/2) loamy sand, very dark grayish brown (2.5Y 3/2) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine interstitial and few very fine tubular pores; moderately alkaline (pH 8.0); clear smooth boundary.
- A—6 to 14 inches (15 to 36 centimeters); grayish brown (2.5Y 5/2) loamy sand, very dark grayish brown (2.5Y 3/2) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine interstitial and few very fine tubular pores; moderately alkaline (pH 8.0); abrupt smooth boundary.
- C1—14 to 22 inches (36 to 56 centimeters); light brownish gray (2.5Y 6/2) coarse sand, dark grayish brown (2.5Y 4/2) moist; massive and single grain; loose to slightly hard, loose to friable, nonsticky and slightly sticky and nonplastic and slightly plastic; common very fine roots; many very fine interstitial and common very fine tubular pores; common fine and medium prominent brownish yellow (10YR 6/6) and dark yellowish brown (10YR 4/4) redoximorphic features, dark yellowish brown (10YR 3/4 and 10YR 4/6) moist; slightly alkaline (pH 7.6); abrupt smooth boundary.
- C2—22 to 26 inches (56 to 66 centimeters); light brownish gray (2.5Y 6/2) loamy sand, dark grayish brown (2.5Y 4/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine interstitial pores; common fine prominent brownish yellow (10YR 6/6) and dark yellowish brown (10YR 4/4) redoximorphic features, dark yellowish brown (10YR 3/4 and 10YR 4/6) moist; slightly alkaline (pH 7.6); abrupt smooth boundary.
- C3—26 to 38 inches (66 to 97 centimeters); light brownish gray (2.5Y 6/2) sand, grayish brown (2.5Y 5/2) moist; single grain; loose, nonsticky and nonplastic; many very fine interstitial pores; slightly alkaline (pH 7.8); abrupt smooth boundary.
- C4—38 to 43 inches (97 to 109 centimeters); brownish gray (2.5Y 5/2) sandy loam, very dark grayish brown (2.5Y 3/2) moist; massive; soft, friable, slightly sticky and nonplastic; many very fine interstitial pores; neutral (pH 7.0); abrupt smooth boundary.
- C5—43 to 54 inches (109 to 137 centimeters); light gray (2.5Y 7/2) sand, grayish brown (2.5Y 5/2) moist; single grain; loose, nonsticky and nonplastic; many very fine interstitial pores; neutral (pH 7.1); abrupt smooth boundary.
- C6—54 to 58 inches (137 to 147 centimeters); brownish gray (2.5Y 5/2) loam, very dark grayish brown (2.5Y 3/2) moist; massive; soft, friable, slightly sticky and plastic; many very fine tubular and interstitial pores; neutral (pH 7.2); abrupt smooth boundary.

C7—58 to 64 inches (147 to 163 centimeters); grayish brown (2.5Y 5/2) loamy sand, very dark grayish brown (2.5Y 3/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine interstitial and few fine tubular pores; moderately alkaline (pH 7.9).

Range in characteristics

The content of organic matter decreases irregularly with increasing depth.

Ap and A horizons:

Hue—10YR or 2.5Y dry and moist

Value—5 or 6 dry and 3 or 4 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—sand or loamy sand

Content of clay—2 to 6 percent

Content of organic matter—0.3 to 0.8 percent

Reaction—neutral to moderately alkaline

C horizons:

Hue—10YR, 2.5Y, 5Y, or 5GY dry and moist

Value—5 to 7 dry and 3 to 5 moist

Chroma—1 to 4 dry and moist

Texture of the fine-earth fraction—stratified coarse sand to loam

Content of clay—2 to 18 percent

Content of organic matter—0.1 to 0.8 percent

Reaction—neutral to moderately alkaline

Walong Series

The Walong series consists of moderately deep, well drained soils that formed in residuum weathered from metamorphic and/or igneous rock. These soils are on benches on mountain slopes. Slope is 15 to 75 percent. Walong soils are classified as coarse-loamy, mixed, superactive, thermic Typic Haploxerolls.

Typical pedon

In map unit 402, Loslobos-Walong association, 5 to 30 percent slopes; Kern County, California; about 33 miles (53.1 kilometers) south of downtown Bakersfield and about 1 mile (1.6 kilometer) east of the town of Grapevine; 800 feet (243.8 meters) north and 1,000 feet (304.8 meters) east of the southwest corner of sec. 21 (projected), T. 10 N., R. 19 W.; San Bernardino Base and Meridian; latitude 34 degrees 55 minutes 43 seconds north and longitude 118 degrees 54 minutes 53 seconds west; USGS Grapevine, California, Quadrangle, NAD83.

A1—0 to 3 inches (0 to 8 centimeters); brown (10YR 5/3) very bouldery sandy loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; common very fine interstitial pores; 15 percent 2- to 75-millimeter gravel, 5 percent 75- to 250-millimeter cobbles, 5 percent 250- to 600-millimeter stones, and 25 percent 600- to 3,000-millimeter boulders; neutral (pH 7.2); clear wavy boundary.

A2—3 to 12 inches (8 to 30 centimeters); brown (10YR 5/3) very bouldery sandy loam, very dark grayish brown (10YR 3/3) moist; weak coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; 15 percent 2- to 75-millimeter gravel, 5 percent 75- to 250-millimeter cobbles, 5 percent 250- to 600-millimeter stones, and 25 percent 600- to 3,000-millimeter boulders; neutral (pH 7.2); clear wavy boundary.

Bw—12 to 29 inches (30 to 74 centimeters); light yellowish brown (10YR 6/4) very bouldery sandy loam, dark yellowish brown (10YR 4/4) moist; massive; soft,

very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; 15 percent 2- to 75-millimeter gravel, 5 percent 75- to 250-millimeter cobbles, 5 percent 250- to 600-millimeter stones, and 25 percent 600- to 3,000-millimeter boulders; neutral (pH 7.2); abrupt irregular boundary. Cr—29 to 39 inches (74 to 99 centimeters); weakly cemented, highly weathered igneous rock.

Range in characteristics

The depth to paralithic contact is 20 to 40 inches (51 to 102 centimeters). The percentage of the surface covered by rock fragments is as follows: 0 to 15 percent by 2- to 75-millimeter gravel, 0 to 15 percent by 75- to 250-millimeter cobbles, 0 to 15 percent by 250- to 600-millimeter stones, and 0 to 25 percent by 600- to 3,000-millimeter boulders consisting of mixed metamorphic and igneous rock.

A horizons:

Hue—10YR dry and moist
Value—4 or 5 dry and 3 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam
Content of clay—7 to 18 percent
Content of organic matter—1 to 2 percent
Reaction—neutral or slightly alkaline
Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel, 0 to 10 percent 75- to 250-millimeter cobbles, 0 to 10 percent 250- to 600-millimeter stones, and 0 to 30 percent 600- to 3,000-millimeter boulders

Bw horizon:

Hue—10YR dry and moist
Value—5 or 6 dry and 3 or 4 moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—sandy loam
Content of clay—7 to 18 percent
Content of organic matter—0.2 to 0.75 percent
Reaction—neutral or slightly alkaline
Content of rock fragments—0 to 15 percent 2- to 75-millimeter gravel, 0 to 10 percent 75- to 250-millimeter cobbles, 0 to 10 percent 250- to 600-millimeter stones, and 0 to 30 percent 600- to 3,000-millimeter boulders

Wasco Series

The Wasco series consists of very deep, well drained soils that formed in mixed alluvium derived from granitoid rock. These soils are on alluvial fans. Slope is 0 to 1 percent. Wasco soils are classified as coarse-loamy, mixed, superactive, nonacid, thermic Typic Torriorthents.

Typical pedon

In map unit 320, Wasco sandy loam, 0 to 1 percent slopes; Kern County, California; about 2 miles (3.2 kilometers) south and 0.5 mile (0.8 kilometer) east of Lamont; about 1,650 feet (502.9 meters) south and 2,520 feet (768.1 meters) west of the northeast corner of sec. 18, T. 31 S., R. 29 E.; Mount Diablo Base and Meridian; latitude 35 degrees 14 minutes 00 seconds north and longitude 118 degrees 54 minutes 17 seconds west; USGS Weedpatch, California, Quadrangle, NAD83.

Ap—0 to 7 inches (0 to 18 centimeters); brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; moderate coarse and medium cloddy structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and common very fine roots; few

- fine tubular and common very fine tubular and vesicular pores; 5 percent 2- to 75-millimeter gravel; neutral (pH 7.0); clear smooth boundary.
- A—7 to 17 inches (18 to 43 centimeters); brown (10YR 5/3) sandy loam, dark brown (10YR 4/3) moist; strong extremely coarse cloddy structure; hard, friable, nonsticky and nonplastic; common very fine roots; few very fine tubular pores; 5 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.
- C1—17 to 25 inches (43 to 64 centimeters); yellowish brown (10YR 5/4) sandy loam, dark grayish brown (10YR 4/2) moist; weak very coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots, concentrated on faces of pedis; few very fine tubular pores; 5 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt wavy boundary.
- C2—25 to 31 inches (64 to 79 centimeters); yellowish brown (10YR 5/4) sandy loam, dark brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few fine tubular and common very fine tubular and interstitial pores; slightly effervescent; carbonates disseminated; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0); clear wavy boundary.
- C3—31 to 64 inches (79 to 163 centimeters); yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; few fine tubular and common very fine tubular and interstitial pores; slightly effervescent; carbonates disseminated; 5 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.0).

Range in characteristics

Ap and A horizons:

- Hue—10YR dry and moist
- Value—5 or 6 dry and 3 or 4 moist
- Chroma—2 to 4 dry and 3 moist
- Texture of the fine-earth fraction—sandy loam or fine sandy loam
- Content of clay—8 to 18 percent
- Content of organic matter—0.2 to 0.5 percent
- Reaction—neutral to moderately alkaline
- Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel

C horizons:

- Hue—10YR dry and moist
- Value—5 dry and 4 moist
- Chroma—2 to 4 dry and moist
- Texture of the fine-earth fraction—loamy sand, sandy loam, or silt loam
- Content of clay—8 to 18 percent
- Content of organic matter—0.02 to 0.3 percent
- Reaction—neutral to moderately alkaline
- Content of rock fragments—0 to 10 percent 2- to 75-millimeter gravel

Weedpatch Series

The Weedpatch series consists of very deep, well drained soils that formed in alluvium derived dominantly from granitoid rock. These soils are on the remnants of basin floors. Slope is 0 to 1 percent. Weedpatch soils are classified as fine-loamy, mixed, superactive, thermic Typic Haplocalcids.

Typical pedon

In map unit 340, Weedpatch clay loam, 0 to 1 percent slopes; Kern County, California; about 10 miles (16.1 kilometers) south of Bakersfield; 2,200 (670.6 meters) feet north and 1,100 feet (335.3 meters) east of the southwest corner of sec. 22, T. 31 S., R. 28 E.; Mount Diablo Base and Meridian; latitude 35 degrees 12 minutes 53

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seconds north and longitude 118 degrees 57 minutes 49 seconds west; USGS Weed Patch, California, Quadrangle, NAD83.

- Ap—0 to 8 inches (0 to 20 centimeters); pale brown (10YR 6/3) clay loam, dark yellowish brown (10YR 3/4) moist; strong very coarse cloddy structure; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common very fine tubular pores; electrical conductivity of 5.1 decisiemens per meter; sodium adsorption ratio of 7; calcium carbonate equivalent of 9 percent; violently effervescent; carbonates disseminated; moderately alkaline (pH 8.4); clear smooth boundary.
- Bw—8 to 18 inches (20 to 46 centimeters); pale brown (10YR 6/3) clay loam, dark yellowish brown (10YR 3/4) moist; weak coarse subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular pores; electrical conductivity of 0.9 decisiemen per meter; sodium adsorption ratio of 5; calcium carbonate equivalent of 13 percent; violently effervescent; carbonates disseminated and segregated as few fine soft masses; moderately alkaline (pH 8.4); abrupt smooth boundary.
- 2Bk1—18 to 24 inches (46 to 61 centimeters); pale yellow (2.5Y 7/4) clay loam, olive brown (2.5Y 4/4) moist; weak coarse prismatic structure parting to strong fine angular blocky; hard, firm, moderately sticky and very plastic; few very fine roots; common very fine and few fine, medium, and coarse tubular pores; electrical conductivity of 0.8 decisiemen per meter; sodium adsorption ratio of 7; calcium carbonate equivalent of 20 percent; many pressure faces and few thin dark organic stains on faces of peds; violently effervescent; carbonates disseminated and segregated as common fine and medium soft masses and as fine and medium concretions; strongly alkaline (pH 8.6); abrupt smooth boundary.
- 2Bk2—24 to 42 inches (61 to 107 centimeters); light gray (2.5Y 7/2) clay loam, dark grayish brown (2.5Y 4/2) moist; weak coarse prismatic structure parting to strong fine angular blocky; hard, firm, moderately sticky and very plastic; few very fine and fine roots; common very fine, fine, and medium and few coarse tubular pores; electrical conductivity of 0.9 decisiemen per meter; sodium adsorption ratio of 5; calcium carbonate equivalent of 20 percent; many pressure faces and few thin dark organic stains on faces of peds; violently effervescent; carbonates disseminated and segregated as many fine, medium, and large soft masses and as fine, medium, and large concretions (20 percent by volume); strongly alkaline (pH 8.8); abrupt smooth boundary.
- 2Bk3—42 to 47 inches (107 to 119 centimeters); pale yellow (5Y 7/3) clay loam, olive (5Y 4/3) moist; weak very fine prismatic structure parting to strong fine angular blocky; hard, firm, moderately sticky and very plastic; few very fine and fine roots; common very fine and fine and few medium tubular pores; electrical conductivity of 1.2 decisiemens per meter; sodium adsorption ratio of 6; calcium carbonate equivalent of 20 percent; many pressure faces and few thin dark organic stains on faces of peds; violently effervescent; carbonates disseminated and segregated as many fine, medium, and large soft masses and as fine, medium, and large concretions (35 percent by volume); strongly alkaline (pH 8.9); abrupt smooth boundary.
- 2Bk4—47 to 59 inches (119 to 150 centimeters); pale yellow (5Y 7/3) clay loam, olive (5Y 5/3) moist; moderate very fine subangular blocky structure; hard, firm, moderately sticky and very plastic; few very fine and fine roots; common very fine, fine, and medium and few coarse tubular pores; electrical conductivity of 1.0 decisiemen per meter; sodium adsorption ratio of 6; calcium carbonate equivalent of 7 percent; many pressure faces and few thin dark organic stains on faces of peds; violently effervescent; carbonates disseminated and segregated as common fine and medium soft masses and as many fine and medium concretions (25 percent by volume); common medium and large prominent brown (7.5YR 5/4)

redoximorphic features, dark brown (7.5YR 4/4) moist; strongly alkaline (pH 8.6); clear wavy boundary.

2C—59 to 64 inches (150 to 163 centimeters); pale olive (5Y 6/3) clay loam, olive (5Y 4/3) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and very plastic; common very fine and few fine tubular pores; electrical conductivity of 1.1 decisiemens per meter; sodium adsorption ratio of 4; calcium carbonate equivalent of 7 percent; common medium and large prominent redoximorphic features, dark brown (7.5YR 4/4) moist; moderately alkaline (pH 8.4).

Range in characteristics

Ap horizon:

Hue—10YR dry and moist
Value—3 to 6 dry and moist
Chroma—3 to 6 dry and moist
Texture of the fine-earth fraction—clay loam or silty clay loam
Content of clay—20 to 35 percent
Content of organic matter—0.5 to 1.5 percent
Calcium carbonate equivalent—5 to 15 percent
Electrical conductivity—0.5 to 8 decisiemens per meter
Sodium adsorption ratio—3 to 12
Reaction—moderately alkaline or strongly alkaline

Bw and 2Bk horizons:

Hue—10YR, 2.5Y, or 5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—loam, clay loam, or silty clay loam
Content of clay—20 to 35 percent
Content of organic matter—0.01 to 0.5 percent
Calcium carbonate equivalent—5 to 30 percent
Electrical conductivity—0.5 to 8 decisiemens per meter
Sodium adsorption ratio—3 to 12 in the Bw, 2Bk1, and 2Bk2 horizons and 3 to 20 in the 2Bk3 and 2Bk4 horizons
Reaction—moderately alkaline or strongly alkaline

2C horizon:

Hue—10YR, 2.5Y, or 5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—loam or clay loam
Content of clay—20 to 35 percent
Content of organic matter—0.01 to 0.1 percent
Calcium carbonate equivalent—5 to 10 percent
Electrical conductivity—0.5 to 4 decisiemens per meter
Sodium adsorption ratio—3 to 20
Reaction—moderately alkaline or strongly alkaline

Welpport Series

The Welpport series consists of shallow, well drained soils that formed in uplifted alluvium derived from calcareous sandstone and/or shale. These soils are on hillslopes. Slope is 9 to 15 percent. Welpport soils are classified as loamy, mixed, superactive, thermic, shallow Typic Petrocalcids.

Typical pedon

In map unit 550, Elkhills-Welport association, 9 to 30 percent slopes; Kern County, California; about 6 miles (9.7 kilometers) northwest of Taft; 2,390 feet (728.5 meters) north and 1,200 feet (365.8 meters) east of the southwest corner of sec. 17, T. 31 S., R. 22 E.; Mount Diablo Base and Meridian; latitude 34 degrees 13 minutes 52 seconds north and longitude 119 degrees 38 minutes 15 seconds west; USGS Panorama Hills, California, Quadrangle, NAD83.

- A1—0 to 3 inches (0 to 8 centimeters); pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; moderate medium angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; violently effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.7); clear wavy boundary.
- A2—3 to 9 inches (8 to 23 centimeters); pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; violently effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.6); clear wavy boundary.
- Bw—9 to 12 inches (23 to 30 centimeters); very pale brown (10YR 7/3) sandy loam, brown (10YR 5/3) moist; weak coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial pores; violently effervescent; carbonates disseminated; 10 percent 2- to 75-millimeter gravel; strongly alkaline (pH 8.6); abrupt wavy boundary.
- Bkqm—12 to 37 inches (30 to 94 centimeters); at the upper boundary, a 0.25- to 0.5-inch (0.5- to 1-centimeter) thick, light gray (10YR 7/2) laminar cap strongly cemented by carbonates and silica, light brownish gray (10YR 6/2) moist; calcium carbonate equivalent of 22 percent; below the petrocalcic cap, very pale brown (10YR 8/2) material weakly cemented by carbonates and silica, light yellowish brown (10YR 6/4) moist; massive; very hard; calcium carbonate equivalent of 22 percent; abrupt wavy boundary.
- 2C—37 to 60 inches (94 to 152 centimeters); very pale brown (10YR 7/4) gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; no roots; common very fine interstitial pores; calcium carbonate equivalent of 18 percent; violently effervescent; carbonates disseminated; 20 percent 2- to 75-millimeter gravel and 10 percent 75- to 250-millimeter cobbles; strongly alkaline (pH 8.5).

Range in characteristics

About 5 to 20 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sedimentary rock. The depth to a petrocalcic horizon is 10 to 20 inches (25 to 51 centimeters).

A horizons:

- Hue—10YR or 2.5Y dry and moist
- Value—6 or 7 dry and 4 or 5 moist
- Chroma—2 to 4 dry and moist
- Texture of the fine-earth fraction—sandy loam
- Content of clay—5 to 18 percent
- Content of organic matter—0.5 to 3 percent
- Calcium carbonate equivalent—1 to 5 percent
- Reaction—moderately alkaline or strongly alkaline
- Content of rock fragments—5 to 15 percent 2- to 75-millimeter gravel

Bw horizon:

- Hue—10YR or 2.5Y dry and moist
- Value—6 to 8 dry and 4 to 6 moist

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Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam
Content of clay—5 to 18 percent
Content of organic matter—0.05 to 0.3 percent
Calcium carbonate equivalent—1 to 5 percent
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—5 to 15 percent 2- to 75-millimeter gravel

Bkqm horizon:

Hue—10YR or 2.5Y dry and moist
Value—7 or 8 dry and 5 to 7 moist
Chroma—2 to 6 dry and moist
Calcium carbonate equivalent—15 to 30 percent

2C horizon:

Hue—10YR or 2.5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam
Content of clay—5 to 18 percent
Content of organic matter—0.01 to 0.1 percent
Calcium carbonate equivalent—10 to 25 percent
Reaction—moderately alkaline or strongly alkaline
Content of rock fragments—10 to 30 percent 2- to 75-millimeter gravel and 5 to 15 percent 75- to 250-millimeter cobbles

Wheelridge Series

The Wheelridge series consists of very deep, somewhat excessively drained soils that formed in alluvium derived from granitoid rock. These soils are on fan remnants. Slope is 0 to 2 percent. Wheelridge soils are classified as mixed, thermic Xeric Torripsamments.

Typical pedon

In map unit 360, Wheelridge gravelly loamy sand, 0 to 2 percent slopes; Kern County, California; about 28 miles (45.1 kilometers) south of downtown Bakersfield; 3,000 feet (914.4 meters) east of Interstate 5 and 1,250 feet (381.0 meters) north of the California Aqueduct; 1,590 feet (484.6 meters) north and 980 feet (298.7 meters) east of the southwest corner of sec. 5, T. 10 N., R. 19 W.; San Bernardino Base and Meridian; latitude 34 degrees 58 minutes 27 seconds north and longitude 118 degrees 55 minutes 55 seconds west; USGS Grapevine, California, Quadrangle, NAD83.

Ap—0 to 7 inches (0 to 18 centimeters); grayish brown (10YR 5/2) gravelly loamy sand, dark brown (10YR 3/3) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; soft, very friable, nonsticky and nonplastic; common very fine and few fine and medium roots; common very fine interstitial pores; 20 percent 2- to 50-millimeter gravel; very slightly effervescent; carbonates disseminated; neutral (pH 7.2); abrupt smooth boundary.

A—7 to 13 inches (18 to 33 centimeters); grayish brown (10YR 5/2) gravelly loamy sand, dark brown (10YR 3/3) moist; weak medium platy structure parting to weak medium subangular blocky; soft, very friable, nonsticky and nonplastic; few very fine, fine, medium, and coarse roots; many very fine interstitial pores; 25 percent 2- to 50-millimeter gravel; slightly effervescent; carbonates disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

Bk1—13 to 27 inches (33 to 69 centimeters); light brownish gray (10YR 6/2) gravelly loamy sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and

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nonplastic; few very fine, fine, medium, and coarse roots; many very fine interstitial pores; 25 percent 2- to 50-millimeter gravel; strongly effervescent; carbonates disseminated and segregated as common fine crystals on gravel; strongly alkaline (pH 8.6); clear wavy boundary.

Bk2—27 to 44 inches (69 to 112 centimeters); light brownish gray (10YR 6/2) cobbly loamy sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine, fine, medium, and coarse roots; many very fine and few fine interstitial pores; 15 percent 2- to 75-millimeter gravel and 15 percent 75- to 250-millimeter cobbles; strongly effervescent; carbonates disseminated and segregated as common fine crystals on gravel and cobbles; strongly alkaline (pH 9.0); abrupt wavy boundary.

2Bk3—44 to 65 inches (112 to 165 centimeters); very pale brown (10YR 7/3) extremely gravelly sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few very fine, fine, and medium roots; many very fine and few fine interstitial pores; 65 percent 2- to 75-millimeter gravel; violently effervescent; carbonates disseminated and segregated as common fine crystals on gravel; strongly alkaline (pH 9.0).

Range in characteristics

About 5 to 50 percent of the surface is covered by 2- to 50-millimeter gravel consisting of granitoid rock.

Ap and A horizons:

Hue—10YR dry and moist

Value—5 or 6 dry and 3 or 4 moist

Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—loamy sand

Content of clay—2 to 8 percent

Content of organic matter—0.5 to 1.25 percent

Calcium carbonate equivalent—0 to 4 percent

Reaction—neutral to moderately alkaline

Content of rock fragments—10 to 30 percent 2- to 50-millimeter gravel

Bk horizons:

Hue—10YR dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—2 to 4 dry and moist

Texture of the fine-earth fraction—loamy sand

Content of clay—2 to 8 percent

Content of organic matter—0.01 to 0.5 percent

Calcium carbonate equivalent—0 to 4 percent

Reaction—neutral to strongly alkaline

Content of rock fragments—10 to 30 percent 2- to 75-millimeter gravel and 10 to 20 percent 75- to 250-millimeter cobbles

2Bk horizon:

Hue—10YR dry and moist

Value—6 or 7 dry and 4 or 5 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—sand

Content of clay—1 to 5 percent

Content of organic matter—0.01 to 0.5 percent

Calcium carbonate equivalent—0 to 4 percent

Reaction—moderately alkaline or strongly alkaline

Content of rock fragments—50 to 75 percent 2- to 75-millimeter gravel and 0 to 5 percent 75- to 250-millimeter cobbles

Whitewolf Series

The Whitewolf series consists of very deep, somewhat excessively drained soils that formed in alluvium derived dominantly from granitoid rock. These soils are alluvial fans and flood plains. Slope is 0 to 2 percent. Whitewolf soils are classified as mixed, thermic Xeric Torripsamments.

Typical pedon

In the survey area of Kern County, northwestern part, map unit 246, Whitewolf coarse sandy loam; about 1 mile (1.6 kilometers) northwest of Lamont; about 550 feet (167.6 meters) north and 50 feet (15.2 meters) west of the southeast corner of sec. 31, T. 30 S., R. 29 E.; Mount Diablo Base and Meridian; latitude 35 degrees 16 minutes 13 seconds north and longitude 118 degrees 53 minutes 47 seconds west; USGS Lamont, California, Quadrangle, NAD83.

- Ap—0 to 11 inches (0 to 28 centimeters); brown (10YR 5/3) coarse sandy loam, dark brown (10YR 3/3) moist; massive, slightly hard, very friable, nonsticky and nonplastic; few fine and common very fine roots; common very fine interstitial pores; slightly effervescent; carbonates disseminated; neutral (pH 7.3); clear smooth boundary.
- 2C1—11 to 43 inches (28 to 109 centimeters); pale brown (10YR 6/3) loamy sand, dark brown (10YR 3/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine and very fine roots; few very fine interstitial pores; slightly effervescent; carbonates disseminated; neutral (pH 7.3); clear smooth boundary.
- 2C2—43 to 49 inches (109 to 124 centimeters); pale brown (10YR 6/3) coarse sand, dark yellowish brown (10YR 3/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; few very fine interstitial pores; slightly effervescent; carbonates disseminated; neutral (pH 7.3); clear wavy boundary.
- 3C3—49 to 65 inches (124 to 165 centimeters); pale brown (10YR 6/3) loamy coarse sand, dark brown (10YR 3/3) moist; massive; loose, nonsticky and nonplastic; few very fine roots; few very fine interstitial pores; slightly effervescent; carbonates disseminated; neutral (pH 7.3).

Range in characteristics

A horizon:

Hue—10YR dry and moist
Value—5 dry and 3 moist
Chroma—2 or 3 dry and moist
Texture of the fine-earth fraction—loamy sand or coarse sandy loam
Content of clay—5 to 10 percent
Content of organic matter—0.5 to 1 percent
Calcium carbonate equivalent—1 to 2 percent
Reaction—slightly acid to moderately alkaline
Content of rock fragments—0 to 14 percent 2- to 75-millimeter gravel

2C and 3C horizons:

Hue—10YR or 2.5Y dry and moist
Value—5 to 8 dry and 3 or 4 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—coarse sand, loamy coarse sand, or loamy sand

Content of clay—2 to 5 percent
Content of organic matter—0 to 0.1 percent
Calcium carbonate equivalent—1 to 2 percent
Reaction—slightly acid to moderately alkaline
Content of rock fragments—0 to 14 percent 2- to 75-millimeter gravel

Xeric Torriorthents

Xeric Torriorthents consist of moderately deep or deep, well drained soils that formed in residuum of weathered sandstone and/or shale. These soils are on mountain slopes. Slope is 30 to 75 percent.

Typical pedon

In the survey area of San Luis Obispo County, Carrizo Plain, map unit 249, Xeric Torriorthents-Badlands complex, 30 to 75 percent slopes; about 3.5 miles (5.6 kilometers) south-southwest of Taft; about 1.1 miles (1.8 kilometers) northeast on a road uphill from quail guzzler located in a pit at the second four-way trail intersection; about 1,100 feet (335.3 meters) west and 1,800 feet (548.6 meters) south of the northeast corner of sec. 36, T. 12 N., R. 25 W.; Mount Diablo Base and Meridian; latitude 35 degrees 05 minutes 11 seconds north and longitude 119 degrees 29 minutes 35 seconds west; USGS Maricopa, California, Quadrangle, NAD83.

This pedon is representative of the Xeric Torriorthents in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A—0 to 10 inches (0 to 25 centimeters); pale brown (10YR 6/3) channery sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine granular and subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; common very fine roots; common very fine tubular pores; 20 percent 2- to 150-millimeter channers; violently effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt wavy boundary.
- C1—10 to 24 inches (25 to 61 centimeters); white (10YR 8/2) very channery loam, very pale brown (10YR 7/3) moist; massive; slightly hard, friable, nonsticky and slightly plastic; few very fine roots; common very fine interstitial and tubular pores; violently effervescent; carbonates disseminated; 40 percent 2- to 150-millimeter channers; moderately alkaline (pH 8.2); clear broken boundary.
- C2—24 to 43 inches (61 to 109 centimeters); very pale brown (10YR 7/3) extremely gravelly sandy loam, brownish yellow (10YR 6/6) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very roots; strongly effervescent; carbonates disseminated; 65 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); gradual broken boundary.
- R—43 to 53 inches (109 to 135 centimeters); slightly fractured, very strongly cemented sandstone.

Range in characteristics

The depth to lithic contact is 33 to 53 inches (84 to 135 centimeters). About 15 to 35 percent of the surface is covered by 2- to 150-millimeter channers consisting of sandstone and/or shale.

A horizon:

Hue—10YR dry and moist
Value—6 dry and 4 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—sandy loam
Content of clay—10 to 15 percent
Content of organic matter—0.5 to 1 percent

Calcium carbonate equivalent—1 to 4 percent
Reaction—moderately alkaline
Content of rock fragments—10 to 30 percent 2- to 150-millimeter channers

C horizons:

Hue—10YR dry and moist
Value—7 or 8 dry and 4 to 7 moist
Chroma—2 to 6 dry and mainly 2 or 3 moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—10 to 20 percent
Content of organic matter—0.05 to 0.3 percent
Calcium carbonate equivalent—1 to 4 percent
Reaction—moderately alkaline
Content of rock fragments—10 to 80 percent 2- to 75-millimeter gravel

Xeric Torriorthents, Very Gravelly

Xeric Torriorthents, very gravelly, consist of moderately deep, well drained soils that formed in residuum derived from sedimentary rock. These soils are on escarpments and in other areas on hillslopes. Slope is 15 to 100 percent.

Typical pedon

In map unit 540, Xeric Torriorthents-Badlands complex, 30 to 75 percent slopes; Kern County, California; about 34 miles (54.7 kilometers) southwest of downtown Bakersfield, in the Temblor Range; about 700 feet (213.4 meters) north and 220 feet (67.1 meters) east of the southwest corner of sec. 31, T. 12 N., R. 24 W.; San Bernardino Base and Meridian; latitude 35 degrees 04 minutes 45 seconds north and longitude 119 degrees 29 minutes 24 seconds west; USGS Maricopa, California, Quadrangle, NAD83.

This pedon is representative of the very gravelly Xeric Torriorthents in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A—0 to 2 inches (0 to 5 centimeters); pale brown (10YR 6/3) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial pores; 25 percent 2- to 75-millimeter gravel, 10 percent 75- to 250-millimeter cobbles, and 5 percent 250- to 600-millimeter stones; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); clear wavy boundary.
- C1—2 to 7 inches (5 to 18 centimeters); white (10YR 8/2) very gravelly sandy loam, light yellowish brown (10YR 5/4) moist; weak medium angular blocky structure parting to weak fine angular blocky; slightly hard, friable, slightly sticky and slightly plastic; few very fine, few fine, and few medium roots; few very fine interstitial pores; 25 percent 2- to 75-millimeter gravel, 10 percent 75- to 250-millimeter cobbles, and 5 percent 250- to 600-millimeter stones; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); clear wavy boundary.
- C2—7 to 26 inches (18 to 66 centimeters); white (10YR 8/2) very gravelly sandy loam, light yellowish brown (10YR 5/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine and few fine roots; few very fine interstitial pores; 30 percent 2- to 75-millimeter gravel, 10 percent 75- to 250-millimeter cobbles, and 10 percent 250- to 600-millimeter stones; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.2); abrupt wavy boundary.
- R—26 to 36 inches (66 to 91 centimeters); very strongly cemented, slightly fractured shale.

Range in characteristics

The depth to lithic contact is 20 to 36 inches (51 to 91 centimeters). The percentage of the surface covered by rock fragments is as follows: 5 to 60 percent by 2- to 75-millimeter gravel and 0 to 10 percent by 75- to 250-millimeter cobbles consisting of sedimentary rock.

A horizon:

Hue—10YR dry and moist
Value—5 to 7 dry and moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam
Content of clay—3 to 10 percent
Content of organic matter—0.5 to 1 percent
Electrical conductivity—0.5 to 15 decisiemens per meter
Sodium adsorption ratio—3 to 12
Calcium carbonate equivalent—1 to 4 percent
Content of gypsum—0 to 3 percent
Reaction—moderately alkaline
Content of rock fragments—5 to 30 percent 2- to 75-millimeter gravel, 0 to 15 percent 75- to 250-millimeter cobbles, and 0 to 10 percent 250- to 600-millimeter stones

C horizons:

Hue—10YR dry and moist
Value—7 or 8 dry and 5 or 6 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—sandy loam
Content of clay—3 to 10 percent
Content of organic matter—0.05 to 0.5 percent
Electrical conductivity—0.5 to 15 decisiemens per meter
Sodium adsorption ratio—3 to 12
Calcium carbonate equivalent—1 to 4 percent
Content of gypsum—0 to 3 percent
Reaction—moderately alkaline
Content of rock fragments—5 to 35 percent 2- to 75-millimeter gravel, 0 to 15 percent 75- to 250-millimeter cobbles, and 0 to 15 percent 250- to 600-millimeter stones

Xerofluvents

Xerofluvents consist of very deep, somewhat excessively drained soils that formed in alluvium derived from granitoid rock. These soils are on flood plains. Slope is 0 to 15 percent.

Typical pedon

In map unit 850, Xerofluvents, 0 to 5 percent slopes; Kern County, California; about 45 miles (72.4 kilometers) south of downtown Bakersfield; about 1 mile (1.6 kilometer) southwest of Lebec and 0.5 mile (0.8 kilometer) northeast of the intersection of Frazier Park Road and Lebec Road; about 2,350 feet (716.3 meters) east and 500 feet (152.4 meters) north of the southwest corner of sec. 33, T. 11 N., R. 25 W.; Mount Diablo Base and Meridian; latitude 34 degrees 59 minutes 27 seconds north and longitude 119 degrees 33 minutes 6 seconds west; USGS Cuyama, California, Quadrangle, NAD83.

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This pedon is representative of the Xerofluvents in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A—0 to 4 inches (0 to 10 centimeters); brown (10YR 5/3) gravelly sandy loam, dark brown (10YR 3/3) moist; weak thick platy structure parting to weak medium platy; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular and common very fine interstitial pores; slightly effervescent; carbonates disseminated; 30 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.
- C1—4 to 19 inches (10 to 48 centimeters); light brownish gray (10YR 6/2) extremely gravelly loamy sand, dark grayish brown (10YR 4/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few medium, fine, and very fine roots; many very fine interstitial pores; 60 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.
- C2—19 to 31 inches (48 to 79 centimeters); light brownish gray (10YR 6/2) gravelly sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 25 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.
- C3—31 to 40 inches (79 to 102 centimeters); pale brown (10YR 6/3) extremely gravelly loamy sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine roots; common fine and very fine interstitial pores; slightly effervescent; carbonates disseminated; 65 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.
- C4—40 to 53 inches (102 to 135 centimeters); light brownish gray (10YR 6/2) gravelly sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; no roots; many very fine tubular and common fine interstitial pores; 30 percent 2- to 75-millimeter gravel; neutral (pH 7.0); abrupt smooth boundary.
- C5—53 to 62 inches (135 to 157 centimeters); pale brown (10YR 6/3) gravelly sandy loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular and common very fine interstitial pores; very slightly effervescent; carbonates disseminated; 30 percent 2- to 75-millimeter gravel; neutral (pH 7.0).

Range in characteristics

About 15 to 40 percent of the surface is covered by 2- to 75-millimeter gravel consisting of granitoid rock. The C horizons are stratified in some pedons.

A horizon:

- Hue—10YR dry and moist
- Value—5 to 7 dry and 3 or 4 moist
- Chroma—3 or 4 dry and moist
- Texture of the fine-earth fraction—sandy loam
- Content of clay—8 to 18 percent
- Content of organic matter—0.7 to 1.5 percent
- Reaction—neutral or slightly alkaline
- Content of rock fragments—20 to 40 percent 2- to 75-millimeter gravel

C horizons:

- Hue—10YR dry and moist
- Value—5 or 6 dry and 3 or 4 moist
- Chroma—2 to 4 dry and moist
- Texture of the fine-earth fraction—sand, loamy coarse sand, loamy sand, or sandy loam
- Content of clay—2 to 18 percent
- Content of organic matter—0.1 to 0.9 percent

Reaction—neutral or slightly alkaline

Content of rock fragments—20 to 75 percent 2- to 75-millimeter gravel

Xerolls, Loamy-Skeletal

Xerolls, loamy-skeletal, consist of very deep, well drained soils that formed in residuum derived from sandstone and/or shale. These soils are on hillslopes. Slope is 30 to 75 percent.

Typical pedon

In map unit 700, Xerolls, loamy-skeletal-Los Gatos complex, 30 to 75 percent slopes; Kern County, California; about 20 miles (32.2 kilometers) southeast of Taft; 470 feet (143.3 meters) south and 1,100 feet (335.3 meters) east of the northwest corner of sec. 5, T. 9 N., R. 22 W.; San Bernardino Base and Meridian; latitude 34 degrees 54 minutes 10 seconds north and longitude 119 degrees 14 minutes 39 seconds west; USGS Santiago Creek, California, Quadrangle, NAD83.

This pedon is representative of the loamy-skeletal Xerolls in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A—0 to 8 inches (0 to 20 centimeters); grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and very fine roots; common fine and medium tubular pores; 3 percent 2- to 75-millimeter gravel; slightly acid (pH 6.5); clear smooth boundary.
- Bw—8 to 18 inches (20 to 46 centimeters); brown (10YR 5/3) extremely cobbly loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; many coarse and few medium and fine roots; few fine and medium tubular pores; 35 percent 2- to 75-millimeter gravel and 30 percent 75- to 250-millimeter cobbles; slightly acid (pH 6.5); clear smooth boundary.
- Bt—18 to 38 inches (46 to 97 centimeters); light yellowish brown (10YR 6/4) extremely cobbly loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; hard, very friable, sticky and slightly plastic; few very fine and fine roots; few fine and medium tubular pores; few distinct clay films on faces of peds; 35 percent 2- to 75-millimeter gravel and 35 percent 75- to 250-millimeter cobbles; slightly acid (pH 6.5); clear wavy boundary.
- C—38 to 60 inches (97 to 152 centimeters); light yellowish brown (10YR 6/4) extremely cobbly loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; hard, very friable, sticky and slightly plastic; few fine and very fine and common medium roots; few fine tubular pores; 35 percent 2- to 75-millimeter gravel and 35 percent 75- to 250-millimeter cobbles; slightly acid (pH 7.3).

Range in characteristics

About 0 to 5 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sandstone and/or shale.

A horizon:

Hue—10YR dry and moist

Value—5 dry and 3 moist

Chroma—2 or 3 dry and moist

Texture of the fine-earth fraction—loam

Content of clay—18 to 27 percent

Content of organic matter—1.5 to 2.5 percent

Reaction—slightly acid or neutral

Content of rock fragments—0 to 5 percent 2- to 75-millimeter gravel

Bw and Bt horizons:

Hue—10YR dry and moist

Value—5 or 6 dry and 3 or 4 moist

Chroma—3 or 4 dry and moist

Texture of the fine-earth fraction—loam

Content of clay—18 to 27 percent

Content of organic matter—0.05 to 1.25 percent

Reaction—slightly acid or neutral

Content of rock fragments—20 to 40 percent 2- to 75-millimeter gravel and 15 to 40 percent 75- to 250-millimeter cobbles

Xerorthents

Xerorthents consist of shallow or moderately deep, somewhat excessively drained soils that formed in residuum derived from basalt, sandstone, and/or shale. These soils are on mountain slopes. Slope is 30 to 75 percent.

Typical pedon

In the survey area of San Luis Obispo County, Carrizo Plain, map unit 380 (map unit 219 in Kern County, southwest part, Xerorthents-Badlands complex, 30 to 75 percent slopes); about 2.2 miles (3.5 kilometers) east-southeast of Padrones Spring and 50 feet (15.2 meters) south of the U-turn on a power-line road; about 2,350 feet (716.3 meters) east and 500 feet (152.4 meters) north of the southwest corner of sec. 33, T. 11 N., R. 25 W.; Mount Diablo Base and Meridian; latitude 34 degrees 59 minutes 27 seconds north and longitude 119 degrees 33 minutes 6 seconds west; USGS Cuyama, California, Quadrangle, NAD83.

This pedon is representative of the Xerorthents in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A—0 to 12 inches (0 to 31 centimeters); pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, few fine, and common medium and coarse roots; common very fine and few fine tubular pores; 40 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); gradual wavy boundary.
- C1—12 to 19 inches (31 to 48 centimeters); light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; massive; soft, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; 50 percent 2- to 75-millimeter gravel; moderately alkaline (pH 8.2); gradual wavy boundary.
- C2—19 to 26 inches (48 to 66 centimeters); light yellowish brown (10YR 6/4) extremely cobbly loam, dark yellowish brown (10YR 4/4) moist; massive; soft, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 30 percent 2- to 75-millimeter gravel and 35 percent 75- to 250-millimeter cobbles; moderately alkaline (pH 8.2); gradual wavy boundary.
- R—26 to 28 inches (66 to 71 centimeters); very strongly cemented, slightly fractured basalt.

Range in characteristics

The depth to lithic contact is 16 to 36 inches (41 to 91 centimeters). About 0 to 30 percent of the surface is covered by 2- to 75-millimeter gravel consisting of basalt, sandstone, and/or shale.

A horizon:

Hue—10YR dry and moist
Value—6 dry and 4 or 5 moist
Chroma—3 or 4 dry and moist
Texture of the fine-earth fraction—loam
Content of clay—15 to 20 percent
Content of organic matter—0.5 to 1.0 percent
Reaction—moderately alkaline
Content of rock fragments—10 to 50 percent 2- to 75-millimeter gravel

C horizons:

Hue—10YR dry and moist
Value—6 dry and 4 or 5 moist
Chroma—4 or 5 dry and moist
Texture of the fine-earth fraction—sandy loam or loam
Content of clay—10 to 20 percent
Content of organic matter—0.1 to 0.2 percent
Reaction—moderately alkaline
Content of rock fragments—10 to 50 percent 2- to 75-millimeter gravel and 15 to 60 percent 75- to 250-millimeter cobbles

Xerorthents, Sandy

Xerorthents, sandy, consist of moderately deep, well drained soils that formed in colluvium derived from granitoid rock. These soils are on hillslopes. Slope is 30 to 75 percent.

Typical pedon

In map unit 620, Typic Xerorthents, mesic-Haploxerepts-Xerorthents, sandy, association, 30 to 75 percent slopes; Kern County, California; about 2.7 miles (4.3 kilometers) southeast of the Harris Ranch headquarters, in Black Bob Canyon; about 2,170 feet (661.4 meters) north and 2,400 feet (731.5 meters) east of the southwest corner of sec. 33, T. 10 N., R. 20 W.; San Bernardino Base and Meridian; latitude 34 degrees 54 minutes 10 seconds north and longitude 119 degrees 01 minute 0 seconds west; USGS Pleito Hills, California, Quadrangle, NAD83.

This pedon is representative of the sandy Xerorthents in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A1—0 to 11 inches (0 to 28 centimeters); pale brown (10YR 6/3) gravelly loamy sand, dark yellowish brown (10YR 4/3) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine and common fine interstitial pores; slightly effervescent; carbonates disseminated; 20 percent 2- to 75-millimeter gravel; slightly alkaline (pH 7.8); clear smooth boundary.
- A2—11 to 22 inches (28 to 56 centimeters); pale brown (10YR 6/3) gravelly loamy sand, dark yellowish brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine, medium, and coarse roots; many very fine and common fine interstitial and common very fine and fine tubular pores; 25 percent 2- to 75-millimeter gravel and 5 percent 75- to 250-millimeter cobbles; slightly alkaline (pH 7.8); clear smooth boundary.

- C1—22 to 33 inches (56 to 84 centimeters); very pale brown (10YR 7/3) very cobbly loamy sand, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine, medium, and coarse roots; many very fine and few fine interstitial and few very fine and fine tubular pores; slightly effervescent; carbonates disseminated and segregated as few fine crystals on the bottom of cobbles; 20 percent 2- to 75-millimeter gravel and 20 percent 75- to 250-millimeter cobbles; slightly alkaline (pH 7.6); clear smooth boundary.
- C2—33 to 41 inches (84 to 104 centimeters); very pale brown (10YR 7/3) gravelly loamy sand, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine, fine, medium, and coarse roots; many very fine interstitial pores; slightly effervescent; carbonates disseminated and segregated as few fine crystals on the bottom of cobbles; moderately alkaline (pH 8.0); clear smooth boundary.
- Cr—41 to 51 inches (104 to 130 centimeters); weakly cemented, highly weathered granitoid rock.

Range in characteristics

The depth to paralithic contact is 40 to 60 inches (102 to 152 centimeters). The percentage of the surface covered by rock fragments is as follows: 20 to 60 percent by 2- to 75-millimeter gravel and 2 to 10 percent by 75- to 250-millimeter cobbles consisting of granitoid rock.

A horizons:

- Hue—10YR dry and moist
- Value—5 or 6 dry and 3 or 4 moist
- Chroma—3 or 4 dry and moist
- Texture of the fine-earth fraction—loamy sand
- Content of organic matter—0.5 to 1.25 percent
- Reaction—slightly alkaline or moderately alkaline
- Content of rock fragments—10 to 30 percent 2- to 75-millimeter gravel and 0 to 10 percent 75- to 250-millimeter cobbles

C horizons:

- Hue—10YR dry and moist
- Value—6 or 7 dry and 4 or 5 moist
- Chroma—2 to 4 dry and moist
- Texture of the fine-earth fraction—loamy sand
- Content of organic matter—0.05 to 0.9 percent
- Reaction—slightly alkaline or moderately alkaline
- Content of rock fragments—10 to 30 percent 2- to 75-millimeter gravel and 10 to 30 percent 75- to 250-millimeter cobbles

Xerorthents, Shallow

These Xerorthents consist of shallow, well drained soils that formed in residuum derived from sandstone and/or shale. These soils are on hillslopes. Slope is 30 to 100 percent.

Typical pedon

In map unit 398, Calcic Haploxerepts-Calcic Pachic Argixerolls, fine-Xerorthents, shallow, complex, 30 to 75 percent slopes; Kern County, California; in the San Emidio Hills; about 3,780 feet (1152.1 meters) southeast of a water tank; in an unsectionalized area 4,680 feet (1426.5 meters) north and 820 feet (249.9 meters) east of the northwest corner of sec. 19, T. 10 N., R. 22 W.; San Bernardino Base and Meridian;

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latitude 34 degrees 57 minutes 02 seconds north and longitude 119 degrees 16 minutes 24 seconds west; USGS Santiago Creek, California, Quadrangle, NAD83.

This pedon is representative of the shallow Xerorthents in this survey area. Because of the high variability of the soils, however, the pedon is not completely typical.

- A—0 to 8 inches (0 to 20 centimeters); brown (10YR 5/3) sandy clay loam, dark yellowish brown (10YR 4/3) moist; moderate medium subangular blocky structure; moderately hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine irregular and few fine tubular pores; slightly effervescent; carbonates disseminated and segregated as common distinct coatings on rock fragments; slightly alkaline (pH 7.8); clear smooth boundary.
- C—8 to 13 inches (20 to 33 centimeters); pale brown (10YR 6/8) sandy loam, yellowish brown (10YR 5/8) moist; moderate medium subangular blocky structure; moderately hard, firm, slightly sticky and slightly plastic; few very fine roots; many very fine and common very fine irregular pores; moderately alkaline (pH 8.0); clear smooth boundary.
- Cr—13 to 23 inches (33 to 58 centimeters); weakly cemented, highly weathered sandstone.

Range in characteristics

The depth to paralithic contact is 10 to 20 inches (25 to 51 centimeters). About 0 to 20 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sandstone and/or shale.

A horizon:

- Hue—10YR dry and moist
- Value—5 or 6 dry and 4 or 5 moist
- Chroma—3 or 4 dry and moist
- Texture of the fine-earth fraction—sandy clay loam
- Content of clay—20 to 34 percent
- Content of organic matter—0.5 to 0.7 percent
- Reaction—slightly alkaline to strongly alkaline
- Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

C horizon:

- Hue—10YR dry and moist
- Value—6 or 7 dry and 5 or 6 moist
- Chroma—6 to 8 dry and moist
- Texture of the fine-earth fraction—loamy sand or sandy loam
- Content of clay—5 to 19 percent
- Content of organic matter—0.05 to 0.2 percent
- Reaction—slightly alkaline to strongly alkaline
- Content of rock fragments—0 to 20 percent 2- to 75-millimeter gravel

Zalvidea Series

The Zalvidea series consists of very deep, somewhat poorly drained soils that formed in alluvium over lacustrine deposits derived from rocks of mixed mineralogy. These soils are partially drained. They are on fan skirts and basin floors. Slope is 0 to 2 percent. Zalvidea soils are classified as coarse-loamy, gypsic, thermic Typic Haplogypsid.

Typical pedon

In map unit 380, Zalvidea sandy loam, partially drained, 0 to 2 percent slopes; Kern County, California; about 18 miles (29.0 kilometers) southwest of downtown Bakersfield; 1 mile (1.6 kilometer) south and 1 mile (1.6 kilometer) west of the J.G.

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Boswell Buena Vista Ranch office; 280 feet (85.3 meters) south and 540 feet (164.6 meters) east of the projected northwest corner of sec. 36, T. 31 S., R. 25 E.; Mount Diablo Base and Meridian; latitude 35 degrees 11 minutes 38 seconds north and longitude 119 degrees 15 minutes 06 seconds west; USGS Mouth of Kern, California, Quadrangle, NAD83.

Ap—0 to 8 inches (0 to 20 centimeters); light brownish gray (2.5Y 6/2) sandy loam, dark grayish brown (2.5Y 4/2) moist; weak very coarse cloddy and weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; strongly effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.

By1—8 to 23 inches (20 to 58 centimeters); pale yellow (5Y 7/3) sandy loam, olive (5Y 5/3) moist; weak coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine interstitial pores; slightly effervescent; common fine and medium masses of gypsum; few fine prominent yellow (2.5Y 7/8) redoximorphic features, olive yellow (2.5Y 6/8) moist; slightly alkaline (pH 7.6); clear smooth boundary.

By2—23 to 27 inches (58 to 69 centimeters); pale olive (5Y 6/3) sandy loam, olive (5Y 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine tubular and common very fine interstitial pores; slightly effervescent; common fine and medium masses and threads of gypsum; slightly alkaline (pH 7.7); clear smooth boundary.

By3—27 to 37 inches (69 to 94 centimeters); pale yellow (5Y 7/3) sandy loam, olive (5Y 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine tubular and common very fine interstitial pores; slightly effervescent; common fine and medium masses and threads of gypsum; slightly alkaline (pH 7.8); clear wavy boundary.

BCy—37 to 52 inches (94 to 132 centimeters); light gray (5Y 7/2) fine sandy loam, olive (5Y 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine tubular and common very fine interstitial pores; slightly effervescent; carbonates segregated as common fine and medium soft masses; few fine and medium masses and threads of gypsum crystals; many fine and medium prominent yellowish brown (10YR 5/6) redoximorphic features, dark yellowish brown (10YR 4/6) moist; slightly alkaline (pH 7.5); gradual wavy boundary.

2C—52 to 65 inches (132 to 165 centimeters); pale yellow (2.5Y 7/4) sand, light olive brown (2.5Y 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine interstitial pores; common fine and medium prominent brownish yellow (10YR 6/6) and few dark gray (10YR 4/1) redoximorphic features, yellowish brown (10YR 5/6) and very dark gray (10YR 3/1) moist; slightly alkaline (pH 7.8); abrupt smooth boundary.

3C—65 to 69 inches (165 to 175 centimeters); pale yellow (5Y 7/3) silty clay loam, olive (5Y 5/3) moist; massive; hard, friable, moderately sticky and moderately plastic; few very fine tubular pores; common fine prominent dark gray (10YR 4/1) redoximorphic features, yellowish brown (10YR 5/6) moist; slightly alkaline (pH 7.7).

Range in characteristics

A horizon:

Hue—2.5Y or 5Y dry and moist

Value—5 or 6 dry and 3 or 4 moist

Chroma—1 or 2 dry and moist

Texture of the fine-earth fraction—sandy loam or sandy clay loam

Content of clay—8 to 35 percent

Content of organic matter—less than 0.5 percent to 1 percent

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Electrical conductivity—2 to 8 decisiemens per meter
Sodium adsorption ratio—1 to 5
Calcium carbonate equivalent—0 to 4 percent
Content of gypsum—0 to 15 percent
Reaction—neutral or slightly alkaline
Content of rock fragments—0 to 9 percent 2- to 75-millimeter gravel

By and BCy horizons:

Hue—2.5Y or 5Y dry and moist
Value—6 or 7 dry and 4 to 6 moist
Chroma—2 or 3 dry and 2 to 4 moist
Texture of the fine-earth fraction—sandy loam or fine sandy loam
Content of clay—8 to 18 percent
Content of organic matter—less than 0.05 percent to 0.5 percent
Electrical conductivity—2 to 8 decisiemens per meter
Sodium adsorption ratio—1 to 5
Calcium carbonate equivalent—0 to 5 percent
Content of gypsum—30 to 55 percent in the By horizons and 2 to 15 percent in the BCy horizon
Reaction—neutral to moderately alkaline
Content of rock fragments—0 to 9 percent 2- to 75-millimeter gravel

2C and 3C horizons:

Hue—2.5Y or 5Y dry and moist
Value—6 or 7 dry and 4 or 5 moist
Chroma—2 to 4 dry and moist
Texture of the fine-earth fraction—stratified sand to silt loam
Content of clay—4 to 30 percent
Content of organic matter—less than 0.05 percent to 0.1 percent
Electrical conductivity—2 to 8 decisiemens per meter
Sodium adsorption ratio—1 to 5 percent
Calcium carbonate equivalent—0 to 4 percent
Content of gypsum—0 to 15 percent
Reaction—neutral or slightly alkaline
Content of rock fragments—0 to 9 percent 2- to 75-millimeter gravel

Zonap Series

The Zonap series consists of moderately deep, well drained soils that formed in residuum weathered from sandstone and shale. These soils are on hillslopes. Slope is 15 to 75 percent. Zonap soils are classified as coarse-loamy, mixed, superactive, calcareous, thermic Xeric Torriorthents.

Typical pedon

In map unit 515, Zonap-Badlands-Beam complex, 30 to 75 percent slopes; Kern County, California; about 39 miles (62.8 kilometers) west of downtown Bakersfield; about 2,200 feet (670.6 meters) north and 1,640 feet (499.9 meters) east of the southwest corner of sec. 31, T. 31 S., R. 22 E.; Mount Diablo Base and Meridian; latitude 35 degrees 10 minutes 52 seconds north and longitude 119 degrees 39 minutes 42 seconds west; USGS Panorama Hills, California, Quadrangle, NAD83.

A1—0 to 3 inches (0 to 8 centimeters); pale brown (10YR 6/3) fine sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; common very fine interstitial pores; moderately alkaline (pH 8.0); clear wavy boundary.

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- A2—3 to 10 inches (8 to 25 centimeters); pale brown (10YR 6/3) fine sandy loam, brown (10YR 4/3) moist; weak very coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few medium roots; common very fine interstitial and few fine and medium tubular pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); clear wavy boundary.
- C—10 to 26 inches (25 to 66 centimeters); pale yellow (2.5Y 7/3) fine sandy loam, light olive brown (2.5Y 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; few very fine interstitial and few very fine and fine tubular pores; strongly effervescent; carbonates disseminated; moderately alkaline (pH 8.0); abrupt wavy boundary.
- Cr—26 inches; moderately cemented shale.

Range in characteristics

The depth to paralithic contact is 20 to 40 inches (51 to 102 centimeters). About 0 to 30 percent of the surface is covered by 2- to 75-millimeter gravel consisting of sandstone and/or shale.

A horizons:

- Hue—10YR or 2.5Y dry and moist
- Value—6 dry and 4 or 5 moist
- Chroma—2 to 4 dry and moist
- Texture of the fine-earth fraction—sandy loam or fine sandy loam
- Content of clay—10 to 18 percent
- Content of organic matter—0.3 to 1.5 percent
- Calcium carbonate equivalent—0 to 3 percent
- Reaction—neutral to moderately alkaline
- Content of rock fragments—0 to 30 percent 2- to 75-millimeter gravel

C horizon:

- Hue—10YR or 2.5Y dry and moist
- Value—6 to 8 dry and 4 to 7 moist
- Chroma—2 to 4 dry and 3 or 4 moist
- Texture of the fine-earth fraction—sandy loam or fine sandy loam
- Content of clay—10 to 18 percent
- Content of organic matter—0.05 to 0.15 percent
- Calcium carbonate equivalent—1 to 3 percent
- Reaction—moderately alkaline
- Content of rock fragments—0 to 50 percent 2- to 75-millimeter gravel

Formation of the Soils

Soil is generally defined as a natural growing medium for plants and habitat for soil animals and micro-organisms. Soil is a three-dimensional body and is made up of organic and mineral material and air and water. The characteristics and properties of soil are determined by physical and chemical processes that result from the interaction of five soil-forming factors (Jenny, 1941). These factors are:

1. Climate, mainly the temperature and kind and amount of precipitation since the accumulation or exposure of the parent material.
2. Living organisms, mainly the plant cover and the organisms living in and on the soil (including humans).
3. The amount of time that the soil-forming factors have been active.
4. Parent material, including the texture and structure of the material and its mineralogical and chemical composition.
5. Topography, mainly as it affects internal and external soil properties, such as drainage, aeration, susceptibility to erosion, and exposure to the sun and wind.

The influence of any one of these factors varies at each locality, and the soils may differ accordingly from place to place or within short distances.

Soils are classified, mapped, and interpreted on the basis of field verification of various kinds of soil horizons and the arrangement of those horizons. This process commonly follows preliminary delineation of soil map units based on landforms, predicted soil characteristics, and knowledge of the area gained by the soil scientist involved in the soil mapping. The degree and expression of the soil horizons reflect the extent of the interaction of soil-forming factors with one or more soil-forming processes, including additions, removals, transfers, and transformations (Simonson, 1959). The important diagnostic surface horizons in this survey area include mollic epipedons, and the significant diagnostic subsurface horizons include cambic, argillic, natric, and calcic horizons. The Glossary defines these diagnostic horizons.

Climate

This survey area has a Mediterranean climate that is characterized by hot, dry summers and cool, moist winters. Most of the rainfall occurs in the period November through April. Warm temperatures and moist soil conditions in spring are conducive to rapid chemical reactions. During periods of rainfall, water carrying dissolved or suspended solids moves through the soil. Weathering is generally limited in the cool winter months, but leaching processes become active with the onset of seasonal rainfall. In the absence of fire, weathering is most active in spring and least active in summer and late fall. In soils that have a high water table, weathering can occur in summer and fall. Soils that are kept moist by applications of irrigation water also may have higher weathering rates.

The growth of plants in the hills and mountains of the survey area is rapid early in spring but ceases in June or July because of a lack of moisture in conjunction with increased air temperature. Topography and relief affect present-day climate variations. With increasing elevation, temperature generally decreases and the amount of

precipitation generally increases. As the amount of precipitation increases, the extent of leaching and the amount of vegetation generally increase, resulting in an increased content of organic matter and the cycling of bases. Fluctuations in temperature and moisture affect the rate at which organic matter decomposes and accumulates and the weathering of minerals. Soils on the older landforms, such as Garces soils on nonburied fan remnants, have been affected by climatic conditions different from the current conditions. In the past these "paleosols" formed on a landscape with distinctive morphological features resulting from a soil-forming environment that no longer exists at the site.

The soil climate paradigm in this soil survey follows closely with drainage patterns, aspect, mountainous terrain, and rain shadows. Generally, the soils in valleys in the survey area are in an aridic soil moisture regime and a thermic soil temperature regime. In some years no portion of the soil moisture control section in these soils is moistened by rainfall.

An exception to the aridic moisture regime in the valleys is evident in the vicinity of the Buena Vista and Kern Lake Beds. These two lakes captured runoff and drainage from the Kern River to the northeast and a multitude of intermittent streams from the west, south, and east that added significant water to the system. The two lakes and their environs are now drained, but their past drainage is evidenced by salts, high water tables, a higher content of organic matter, and stratification in the soils. Most of these soils are drained or partially drained, but they retain many aquatic characteristics. In their original state, they were poorly drained soils and therefore have an aquatic moisture regime.

On the west side of the survey area, the moisture regime gradually changes from aridic to xeric as elevation and precipitation increase. All of the soils in this part of the survey area are in a thermic temperature regime.

From the San Joaquin Valley up into the lower portions of the Transverse Range, there is a gradual change from an aridic moisture regime in the soils to an aridic moisture regime the grades to xeric. The soils are all in a thermic temperature regime.

As elevation and precipitation increase from the valley floor south up into the Transverse Range, the moisture regime changes from aridic to xeric. This change generally takes place near the low end of fan remnants deposited during the erosion and weathering of soils in the Transverse Range. The soils are in a thermic temperature regime.

All of the soils at the higher elevations in the southern part of the survey are in a xeric moisture regime, and most are in a mesic temperature regime. The mesic temperature regime is a product of a higher elevation that translates into higher precipitation, including small amounts of snow. Cool temperatures are also the product of north aspects, steep slopes, and cold air drainage from high mountains of the Transverse Range, which borders the southern part of the survey area.

Living Organisms

The activities of living organisms, including soil flora, fauna, and humans, influence the formation and morphology of soils. Fungi help to decompose organic matter. Some bacteria convert unavailable nitrogen gas from the soil atmosphere into forms that are available to plants. Bacteria, earthworms, small insects, and rodents mix soil material through burrowing and tunneling. Abandoned tunnels commonly are filled with loose material from the overlying horizons and transmit water more readily than the surrounding undisturbed soil material.

More than half of the survey area is used as irrigated cropland. The original vegetation had a significant impact on the soils. The impact is still evident to some degree in most soils, especially in the valleys, where soil modification by human activities is less intensive, and in the few uncultivated areas that remain in the survey

area. A mollic epipedon in Copus soils indicates the vegetative conditions on the basin floor of the San Joaquin Valley. Similarly, a mollic epipedon in Bakersfield and Oldriver soils indicates the vegetative conditions on flood plains from the Kern River descending to the basin floor. The high content of organic matter in these soils resulted from vegetation in a wetland environment. Salt-tolerant plant communities along the lower parts of fan skirts included such vegetation as saltbush, pickleweed, and saltgrass, which affected the soils by thriving in an environment where other plants could not. Most of soils in these areas did not have enough organic matter derived from the vegetation to form a mollic epipedon. Posochanet and Calflax soils on fan skirts are examples of soils that have an ochric epipedon.

The grassland and shrub vegetation on alluvial fans and fan remnants on the west side of the valley were dependent solely on precipitation as the source of soil moisture. Panoche and Gujarral soils have an ochric epipedon because there was not enough vegetation on the alluvial fans and fan remnants to allow the accumulation of organic matter needed to meet the requirements for a mollic epipedon.

Vegetation in the survey area has helped to stabilize the land surfaces. This stability has allowed the other soil-forming factors to affect the soils. Vegetation increases stability by protecting the surface against erosion. Also, plant roots help to develop soil structure and aggregate stability.

Human activities have influenced the formation of numerous soils in the survey area. The activities that resulted in permanent chemical and physical modification of the soils are described in the section "Altered Soils," which follows the section "General Nature of the Survey Area" in this publication.

Time

The influence of time on soil formation is expressed through soil characteristics displayed in soil horizons. Young soils, such as Kimberlina soils on alluvial fans, have few distinctive characteristics and no diagnostic subsurface horizons. Garces and Tennco soils on stable nonburied fan remnants have a natric subsurface horizon and have had the time to develop distinctive profile characteristics.

Parent Material

The soils at the lowest elevations in the survey area are on basin floors and flood plains. They formed primarily in mixed alluvium weathered from igneous rocks from the Sierra Nevada and also sedimentary rocks from the Temblor and Transverse Ranges. Copus and Lokern on the basin floors are examples of soils that formed in alluvium derived primarily from mixed rocks. Most of the soils in the San Joaquin Valley, west of the basin floor in the Buena Vista area, formed in alluvium derived from sedimentary rocks. Gujarral soils on fan remnants, Cerini soils on alluvial fans, and Calflax soils on fan skirts formed in alluvium weathered primarily from sedimentary rocks. The type of sedimentary rock affects the steepness of alluvial fans. "Fans derived from mudstone or shale-rich basins are generally 35 to 75 percent steeper than fans of similar area derived from sandstone-rich basins and roughly twice as large as fans derived from sandstone basins of comparable size" (Bull, 1964).

The soils on the hills and mountains in the survey area generally formed in various types of material weathered from sedimentary rocks. Balhud and other shallow soils formed in material weathered from sandstone and shale. The survey area has many different types of sedimentary parent material. Some of these sedimentary rocks are soft and easily break down into smaller rocks, while others are much harder and resist weathering processes. Reaction in the sedimentary parent material ranges from acid to alkaline. Different soils commonly form in different kinds of parent material even when the difference in parent material may appear to be quite insignificant. Parent

material commonly is a major factor affecting soil formation and the distribution of vegetation in the survey area.

Topography and Landforms

The overall landscape in the survey area, mainly hills, mountains, and valleys, is the result of erosional and constructional processes. These processes occurred in response to changes in climate, fluctuating sea levels, and tectonic activities. Cyclic periods of landscape stability and instability also occurred. The current landscape in the area occurred during the Pleistocene and Holocene. The more highly developed soils occur on stable landforms.

Determining the exact age of most of the soils in the survey area is difficult. Relative ages can be estimated from the data available in other areas of the Central Valley. The age of soils also can be estimated from the age of the geomorphic surface. Buried paleosols or exhumed paleosols can occur on the younger surfaces.

Some of the landforms in the survey area have been obscured by land leveling associated with agricultural production, as noted in the section "Altered Soils." Examination of soil data, interpretation of both recent and old aerial photographs, and the study of historical descriptions of the survey area reveal much about the landforms in the area.

The youngest geomorphic surfaces in the survey area are the alluvial fans, flood plains, and a basin floor associated with the major rivers and streams. The soils at the lowest elevations are on the basin floor and on flood plains. Granoso soils on flood plains and Kimberlina soils on alluvial fans south of the Kern River in the northern part of the survey are examples of relatively young soils. They formed primarily in alluvium derived from granitoid rocks weathered from the Sierra Nevada. The most common soils on the basin floor are the very poorly drained Copus soils, which typically have a clay content of 50 to 60 percent.

The next landform to the west and south of the basin floor is a nearly level fan skirt approximately 1 mile wide. In some areas this fan skirt is separated from the basin floor by a thin band of fan remnants. The soils on the fan skirt formed dominantly in alluvium derived from sedimentary rocks from the Temblor and Transverse Ranges. Strongly saline-sodic Posochanet soils are commonly mapped on this landform. In this survey area, this landform is most affected by a rising high water table and increases in salinity resulting from applications of irrigation water and a lack of drainage. See the sections "Saline-Sodic Soils" and "Altered Soils."

The next landforms to the south, upslope from the fan skirt, are alluvial fans that resulted from the deposition of sediment by intermittent streams that drain the San Emigdio and Temblor Ranges. From west to east, these streams include Sandy Creek, Cienaga Canyon, Bitter Creek, Santiago Creek, Muddy Creek, Los Lobos Creek, and San Emigdio Creek. Cerini soils are commonly mapped on these alluvial fans.

The next landforms to the west, upslope from the alluvial fans, are fan remnants. These are mostly erosional fan remnants that formerly were alluvial fans and that no longer receive significant deposits of sediment because they are significantly higher than the flood plains associated with intermittent streams. Gujarral and Klipstein soils are commonly mapped on the fan remnants.

A band of hillslopes separates the fan remnants from the mountain slopes of the Transverse Range. The deep Loslobos and shallow Balhud soils are commonly mapped on these hillslopes. Mountain slopes extend to the top of the drainage basins in the San Emigdio Mountains. Gorman and Frazier soils formed in material weathered from granitoid rocks on mountain slopes. The contact between marine sedimentary bedrock and granitoid bedrock (fig. 18) is associated with mass-movement deposits. Most areas of these slides are undulating and have numerous depressions and mounds.



Figure 18.—Interstate 5 and the Grapevine head south from the San Joaquin Valley into the mountains, where the parent material changes abruptly from marine sedimentary rocks to granitoid rocks. Photo by Robin M. Roberts, NRCS Earth Team Volunteer.

Fire

Although fire is well known throughout forestlands in the West, it is not commonly regarded as a soil-forming factor. Nonetheless, fires function as a soil-forming factor by significantly altering physical, chemical, and biological soil properties. The heat from fires cracks and exfoliates rocks by rapidly expanding trapped water vapor. The exfoliation process increases the amount of rock surface exposed to other weathering agents.

Fires also cause a rapid and dramatic pH increase in the topsoil. This increased alkalinity, or decreased acidity, can be three pH units in surface and near-surface soils, which is a 1,000-fold increase in alkalinity. This increase generates significant solubility changes in metallic elements, rendering some more available to plants and microbes and others less available. It also increases the solubility of silica and alumina and thus stimulates weathering of silicate minerals. Basic ions gradually leach to a greater depth in the years following a fire, and residual effects can persist for a decade or more. Fire also tends to make the upper part of the soil temporarily hydrophobic (water repellent). This hydrophobicity causes accelerated runoff and erosion in upland areas and increased deposition downstream.

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Glossary

- AASHTO classification.** A system for classifying soils specifically for geotechnical engineering purposes that is related to highway and airfield construction. It is based on particle-size distribution and Atterberg limits.
- AASHTO group index (GIN).** An empirical index number used to evaluate clayey and silty clay material.
- Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.
- Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.
- Alkali (sodic) soil.** A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.
- Alluvial cone.** See Alluvial fan.
- Alluvial fan.** A low, outspread mass of loose material and/or rock material washed down the sides of mountains and hills. It commonly has gentle slopes and is shaped like an open fan or a segment of a cone. It is deposited by a stream at the place where the stream issues from a narrow mountain valley or where a tributary stream is near or at its junction with the main stream. An alluvial fan is steepest near its apex that points upstream, and it slopes gently and convexly outward with a gradual decrease in gradient.
- Alluvium.** Material, such as sand, silt, or clay, deposited on land by streams.
- Alpha,alpha-dipyridyl.** A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.
- Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.
- Aridic moisture regime.** Soils that have an aridic moisture regime are dry for at least one-half of the year. They commonly occur in areas that have an aridic climate. A few are in areas that have a semiarid climate, but they either have physical properties that keep them dry, such as a crusty surface that virtually precludes the infiltration of water, or have steep slopes with a high rate of runoff. Little, if any, leaching occurs in the soils in this moisture regime, and soluble salts accumulate in the soils if there is a source of salts.
- Aspect.** The direction in which a slope faces.
- Association, soil.** A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.
- Available water capacity (AWC) (available moisture capacity).** The volume of water that should be available to plants if the soil, inclusive of fragments, were at field capacity. It is commonly estimated as the difference between the amount of water at field capacity and the amount at wilting point with adjustments for salinity, fragments, and rooting depth. It is commonly expressed as inches of water per

inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 2.5
Low	2.5 to 5.0
Moderate.....	5.0 to 7.5
High	7.5 to 10.0
Very high.....	more than 10.0

AWC. See Available water capacity.

Backslope. The hillslope profile position that forms the steepest and generally linear, middle portion of the slope. In profile, backslopes commonly are bounded by a convex shoulder above and a concave footslope below. They may or may not include cliff segments, or free faces. Backslopes are commonly erosional forms produced by mass movement, colluvial action, and running water.

Badland. A landscape that is intricately dissected and is characterized by a very fine drainage network with high drainage density and short, steep slopes with narrow interfluves. Badland develops on surfaces that have little, if any, vegetative cover, are underlain by unconsolidated or poorly cemented material (clay, silt, or sand), and in some areas have soluble minerals, such as gypsum and halite.

Bajada. A broad, gently inclined piedmont slope extending from the base of a mountain range out into a basin. It is formed by the lateral coalescence of a series of alluvial fans. Typically, it has a broadly undulating transverse profile parallel to the mountain front, resulting from the convexness of the component fans. The term generally refers to the constructional slopes of intermontane basins.

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

Basin. Nearly level to gently sloping bottom surface of a wide structural depression between mountain ranges.

Basin floor. A general term for the nearly level, lowermost part of intermontane basins, or bolsons and semibolsons. The floor includes all of the alluvial, eolian, and erosional landforms below the piedmont slope.

Bedrock. A general term for the solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bolson. An internally drained (closed) intermontane basin into which drainageways from surrounding mountains converge inward toward a central depression.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Bulk density. A measurement of the oven-dry weight of the soil material that is less than 2 millimeters in diameter per unit volume. Common measurements are taken at $\frac{1}{3}$ -, $\frac{1}{10}$ -, or 15-bar moisture tension. Bulk density influences plant growth and engineering applications. It is used to convert measurements from a weight basis to a volume basis. Within a family particle-size class, bulk density is an indicator of how well plant roots are able to extend into the soil. Bulk density is used to calculate porosity.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Calcic horizon. A mineral soil horizon of secondary carbonate enrichment that is more than 15 centimeters thick, has a calcium carbonate equivalent of more than 15

percent, and has a calcium carbonate equivalent at least 5 percent higher than the underlying horizon.

Calcium carbonate equivalent. The amount of calcium carbonate in a soil measured by treating the soil sample with hydrochloric acid (HCL). The evolved carbon dioxide (CO₂) is measured, and the amount of carbonate is then calculated as calcium carbonate (CaCO₃).

Cambic horizon. A mineral soil horizon that has the texture of loamy very fine sand or finer, has soil structure rather than rock structure, and contains some weatherable minerals. It is characterized by the alteration or removal of mineral material as indicated by mottling or gray color, stronger chroma or redder hue than the underlying horizons, or the removal of carbonates. The cambic horizon lacks cementation or induration and shows too little evidence of illuviation to meet the requirements for an argillic horizon.

Canyon. A long, deep, narrow, very steep sided valley with high, precipitous walls in an area of high local relief.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity (CEC). The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

CEC. See Cation-exchange capacity.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a chanter.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Clayey. Sandy clay, silty clay, or clay.

Claypan. A dense, compact, slowly permeable layer in the subsoil that has a much higher content of clay than the overlying material. A claypan commonly is hard when dry and plastic or sticky when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse fragments. See Rock fragments.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility percent.

- Colluvium.** Unconsolidated, unsorted earth material transported or deposited on side slopes and/or at the base of slopes by mass movement, or direct gravitational action, and by local unconcentrated runoff.
- Compaction.** The process by which the soil grains are rearranged to decrease void space and bring them into closer contact with one another, thereby increasing bulk density.
- Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.
- Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.
- Conglomerate.** A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter, commonly with a matrix of sand and finer textured material. Cementing agents include silica, calcium carbonate, and iron oxide. Conglomerate is the consolidated equivalent of gravel.
- Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.
- Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."
- Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.
- Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.
- Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.
- Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.
- Cropping system.** Growing crops according to a planned system of rotation and management practices.
- Deep soil.** See Depth, soil.
- Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.
- Delta.** A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.
- Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.
- Depth to bedrock** (in tables). Bedrock is too near the surface for the specified use.
- Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained*, *somewhat excessively drained*, *well drained*, *moderately well drained*, *somewhat poorly drained*, *poorly drained*, and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area.

Draw. A small stream channel that generally is more open and has a broader floor than a ravine or gulch.

Dune. A low mound, ridge, bank, or hill of loose, windblown, granular material (generally sand), either barren or covered with vegetation, that is capable of movement from place to place but always retains its characteristic shape.

Duripan. A subsurface soil horizon that is cemented with illuvial silica, commonly opal or microcrystalline forms, to the degree that less than 50 percent of the volume of air-dry fragments will slake in water or hydrochloric acid.

EC. See Electrical conductivity.

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

Electrical conductivity (EC). The electrolytic conductivity of an extract from saturated soil paste.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Eolian material. Material transported and deposited by wind, including earth material, such as dune sand, sand sheets, loess, and clay.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. The term is most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Family, soil. The most specific hierarchical category in soil taxonomy.

- Fan piedmont.** The most extensive landform on piedmont slopes that is formed either by the lateral downslope coalescence of mountain-front alluvial fans into one generally smooth slope with or without the transverse undulations of the semiconical alluvial fans or by the accretion of fan aprons.
- Fan remnant.** A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, fan aprons, inset fans, and fan skirts, that either have been dissected (erosional fan remnants) or partially buried (nonburied fan remnants). An erosional fan remnant has a relatively flat summit that is a relict fan surface. A nonburied fan remnant is a relict surface in its entirety.
- Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.
- Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.
- Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.
- Fine textured soil.** Sandy clay, silty clay, or clay.
- Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.
- Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.
- Flood plain.** The nearly level plain that borders a stream and is subject to inundation under flood-stage conditions unless protected artificially. It is commonly a constructional landform consisting of sediment deposited during overflow and lateral migration of a stream.
- Foothill.** A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.
- Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).
- Forb.** Any herbaceous plant not a grass or a sedge.
- Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.
- Fragments.** Unattached cemented pieces of bedrock, bedrocklike material, durinodes, concretions, and nodules 2 millimeters in diameter or larger in mineral soils; woody material 20 millimeters in diameter or larger in organic soils.
- Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.
- GIN.** Group index number. See AASHTO group index.
- Granite.** A felsic igneous intrusive rock containing quartz and orthoclase with smaller amounts of sodic plagioclase and commonly muscovite.
- Granitic.** A textural term commonly pertaining to an igneous intrusive rock of felsic to intermediate composition. Referring to granitelike rock, but not necessarily true granite. Commonly applied to granite, quartz monzonite, granodiorite, and diorite.

- Granodiorite.** An igneous intrusive rock that is intermediate between felsic and mafic in composition and contains quartz and somewhat more plagioclase than orthoclase.
- Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.
- Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.
- Ground water.** Water filling all the unblocked pores of the material below the water table.
- Gully.** A small channel with steep sides cut by the concentrated, but intermittent, flow of water commonly during and immediately following heavy rainfall or following icemelt or snowmelt. A gully generally is an obstacle to wheeled vehicles and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.
- Gypsum content.** The percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size.
- Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.
- Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.
- Hemic soil material (mucky peat).** Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.
- High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.
- Hill.** A generic term for an area of the land surface that rises as much as 1,000 feet (300 meters) above surrounding lowlands, commonly has restricted summit area relative to surrounding surfaces, and has a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and commonly is dependent on local usage.
- Holocene.** The epoch of the Quaternary period of geologic time that extends from the end of the Pleistocene (about 10 to 12 thousand years ago) to the present.
- Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:
- O horizon.*—An organic layer of fresh and decaying plant residue.
- A horizon.*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.
- E horizon.*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.
- B horizon.*—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Hummock. Rounded or conical mound or other small rise.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential.

The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state.

Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Inset fan. Specific name for the flood plain of an ephemeral stream that is confined between fan remnants, ballenas, basin-floor remnants, or closely opposed fan toeslopes of a basin.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Intermittent stream. A stream, or reach of a stream, that does not flow year-round (commonly is dry for 3 months or more annually), and its channel generally is below the local water table. It flows only when it receives baseflow during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Intrusive. Pertaining to igneous rock derived from molten matter (magma) that invaded pre-existing rock and cooled below the surface of the Earth.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements.

Furrows are used for tree and row crops.

Level basin (or paddy).—Water is applied to a level plain surrounded by levees or dikes.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

K factor. A measurement of potential soil erodibility caused by detachment of soil particles by water.

Lacustrine deposit. Clastic sediment and chemical precipitates deposited in lakes.

Leaching. The removal of soluble material from soil or other material by percolating water.

LEP. See Linear extensibility percent.

Limestone. A sedimentary rock consisting mainly of calcium carbonate (more than 50 percent) dominantly in the form of calcite. Limestone is commonly formed by a combination of organic and inorganic processes and includes chemical and clastic (soluble and insoluble) constituents. Fossils are common in limestone.

Linear extensibility percent (LEP). The linear expression of the volume difference between the water content of the natural soil fabric at $1/3$ -bar or $1/10$ -bar and oven dryness. The volume change is reported as a percent for the whole soil.

Liquid limit (LL). The moisture content at which the soil passes from a plastic to a liquid state.

LL. See Liquid limit.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loamy. Coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, or silty clay loam.

Loess. Material transported and deposited by wind that consists dominantly of silt-sized clastics.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

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

- Masses.** Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.
- Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.
- Mesa.** A broad, nearly flat topped and commonly isolated land mass that is bounded by steep slopes or precipitous cliffs and has a nearly horizontal summit that consists of layers of resistant rock and is wider than the height of bounding escarpments. Also used to designate broad structural benches and alluvial terraces at intermediate levels in stepped sequences of platforms bordering canyons and valleys.
- Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement in the Earth's crust. Nearly all such rocks are crystalline. Examples are schist, gneiss, quartzite, slate, and marble.
- Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.
- Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.
- Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.
- Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.
- Moderately deep soil.** See Depth, soil.
- Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.
- Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.
- Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.
- Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).
- Mountain.** A natural elevation of the land surface that rises more than 1,000 feet (300 meters) above surrounding lowlands, commonly has limited summit area relative to surrounding surfaces, and generally has steep sides (slopes of more than 25 percent) with or without considerable bare-rock surface. A mountain can occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic and/or volcanic activity and by differential erosion.
- Muck.** Unconsolidated soil material consisting primarily of highly decomposed organic material in which the original plants are not recognizable. It generally contains more mineral material and is darker than peat. See Sapric soil material.
- Mudstone.** A blocky or massive, fine grained sedimentary rock indurated by clay and silt in approximately equal amounts. Also, a general term for clay, silt, claystone, siltstone, shale, and argillite that is used only when the amounts of clay and silt are not known or cannot be precisely determined.

- Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.
- Natric horizon.** A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.
- Neutral soil.** A soil having a pH value of 6.6 to 7.3. See Reaction, soil.
- Nodules.** Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.
- Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.
- OM.** See Organic matter.
- Organic matter (OM).** Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low.....	1.0 to 2.0 percent
Moderate.....	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high.....	more than 8.0 percent

- Paleosol.** A soil that formed in a particular area with distinctive morphological features resulting from a soil-forming environment that no longer exists in the area. The pedogenic process was either altered as a result of external environmental changes or interrupted by burial. A paleosol (or component horizon) is classified as relict if it has persisted without major alteration of morphology by the prevailing pedogenic environment. An exhumed paleosol is one that was buried and has been re-exposed by erosion of the mantle. Most paleosols have been affected by some subsequent modification of the morphology of diagnostic horizons and truncation of the profile.
- Pan.** A compact, dense soil layer that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.
- Parent material.** The unconsolidated and chemically weathered mineral and organic material in which the solum of a soil is formed as a result of pedogenic processes.
- Peat.** Unconsolidated soil material consisting largely of undecomposed or slightly decomposed organic matter that has accumulated under excessive moisture conditions. See Fibric soil material.
- 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.
- Perched water table.** The upper surface of unconfined ground water separated from an underlying main body of ground water by an unsaturated zone.
- Percolation.** The downward movement of water through the soil.
- Permafrost.** Soil or rock that has remained at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.
- Permeability.** The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional

usage in published soil surveys, this rate of flow continues to be expressed as “permeability.” Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow.....	0.0 to 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow.....	0.2 to 0.6 inch
Moderate.....	0.6 inch to 2.0 inches
Moderately rapid.....	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid.....	more than 20 inches

- pH value.** A numerical designation of acidity and alkalinity in soil. See Reaction, soil.
- Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.
- PI.** See Plasticity index.
- Piedmont.** An area, plain, slope, glacier, or other feature at the base of a mountain; for example, a foothill or bajada. In the United States, the Piedmont is a low plateau that extends from New Jersey to Alabama and lies east of the Appalachian Mountains.
- Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.
- Plasticity index (PI).** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.
- Plateau.** A comparatively flat area of great extent and elevation. Specifically, an extensive land region considerably elevated (more than 100 meters) above adjacent lower lying terrain that is commonly limited on at least one side by an abrupt descent and has a flat or nearly level surface. A relatively large part of a plateau surface is near summit level.
- Playa.** The generally dry and nearly level lake plain that occupies the lowest parts of closed depressions, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff. Playas consist of fine grained deposits and may or may not have a high water table and may or may not be saline.
- Pleistocene.** The epoch of the Quaternary period of geologic time following the Pliocene and preceding the Holocene (approximately 2 million to 10 thousand years ago). Also refers to the corresponding (time-stratigraphic) “series” of earth material.
- Plowpan.** A compacted layer formed in the soil directly below the plowed layer.
- Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.
- Potential native plant community.** See Climax plant community.
- Potential rooting depth (effective rooting depth).** Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.
- Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.
- Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.
- Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.
- Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

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 differs 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, proportion, and total production.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

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

Ultra acid.....	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid.....	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid.....	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline.....	7.4 to 7.8
Moderately alkaline.....	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline.....	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Relief. The elevations or inequalities of a land surface, considered collectively.

Remnant. The remaining part of a larger landform or land surface that has been dissected or partially buried.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A small steep-sided channel resulting from erosion. It is cut by a concentrated, but intermittent, flow of water, usually during and immediately following moderate rains or following icemelt or snowmelt. Generally, a rill is not an obstacle to wheeled vehicles and is shallow enough to be obliterated by ordinary tillage.

Riverwash. Barren alluvial areas of unstabilized sand, silt, clay, or gravel reworked frequently by stream activity.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop. Exposures of bedrock, excluding lava and rock-lined pits.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium. Salinity is expressed as the electrical conductivity of a saturation extract at 25 degrees C. Salinity classes, expressed in millimhos per centimeter, are as follows:

Nonsaline.....	0 to 2
Very slightly saline	2 to 4
Slightly saline.....	4 to 8
Moderately saline.....	8 to 16
Strongly saline	more than 16

Saline-sodic soil. A soil that contains sufficient exchangeable sodium to interfere with the growth of most crops and appreciable quantities of soluble salts. The exchangeable sodium ratio is greater than 0.15; the conductivity of the soil solution, when saturated, is greater than 4 decisiemens per meter (at 25 degrees C); and the pH is commonly 8.5 or less when the soil is saturated.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sandy. Sand or loamy sand.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

SAR. See Sodium adsorption ratio.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic matter accumulated at or near the surface of the Earth under "normal" low temperature and pressure conditions. Sedimentary rock includes the consolidated equivalents of alluvial, colluvial, drift, eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. See Eluviation.

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

Shale. Sedimentary rock that formed as a result of the induration of a clay, silty clay, or silty clay loam deposit and has a tendency to split into thin layers (fissility).

Shallow soil. See Depth, soil.

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

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

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

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the Earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil erodibility factors. The Kw and Kf factors quantify the susceptibility of soil to detachment by water. These erodibility factors predict the long-term average soil loss that results from sheet and rill erosion when various cropping systems and conservation techniques are used. The whole soil is considered in the Kw factor, but only the fine-earth fraction, which is the material less than 2 millimeters in diameter, is considered in the Kf factor.

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

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stratified. Referring to geologic deposits that were formed, arranged, or laid down in layers. Layers in soils that are a result of the processes of soil formation are called horizons; those inherited from the parent material are called strata.

Stream terrace. One of a series of platforms in a stream valley that flanks and is more or less parallel to the stream channel, originally formed near the level of the stream, and represents the dissected remnants of an abandoned flood plain, streambed, or valley floor produced during an earlier period of erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsidence. The decrease in surface elevation as a result of the drainage of wet soils that have organic layers or semifluid mineral layers.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

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

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

T factor. The soil loss tolerance, which is defined as the maximum amount of erosion at which the quality of a soil as a medium for plant growth can be maintained. Maintaining the quality of the soil includes maintaining the surface soil as a seedbed for plants, maintaining the atmosphere-soil interface to allow the entry of air and water into the soil and still protect the underlying soil from wind erosion and water erosion, and maintaining the total soil volume as a reservoir for water and plant nutrients, which is preserved by minimizing soil loss.

Temperature regime, soil. A system that categorizes for taxonomic purposes general, long-term soil temperature conditions at the standard depth of 20 inches or at the surface of bedrock, whichever is shallower. The various regimes are defined according to the freezing point of water or to the high and low extremes for significant biological activity. The regimes, which are defined in “Keys to Soil Taxonomy,” are as follows:

Pergellic.—The regime for soils that have a mean annual temperature of less than 32 degrees F and have permafrost.

Cryic.—The regime for soils that have a mean annual temperature of 32 to 47 degrees F and remain cold in summer.

Frigid.—The regime for soils that have a mean annual temperature similar to that of the cryic regime but have a mean summer temperature at least 9 degrees warmer.

Mesic.—The regime for soils that have a mean annual temperature of 47 to 59 degrees F, and the difference between the mean summer and mean winter temperature is more than 9 degrees.

Thermic.—The regime for soils that have a mean annual temperature of 59 to 72 degrees F, and the difference between the mean summer and mean winter temperature is more than 9 degrees.

Hyperthermic.—The regime for soils that have a mean annual temperature of more than 72 degrees F, and the difference between the mean summer and mean winter temperature is more than 9 degrees.

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

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Terrace (geomorphologic). A steplike surface bordering a valley floor or shoreline that represents the former position of a flood plain, lake, or seashore. The term is commonly applied to both the relatively flat summit surface (tread) that has been cut or built up by stream or wave action and the steeper descending slope (scarp or riser) that grades to a lower base level of erosion. Practically, terraces are considered to be generally flat alluvial areas above the 100-year flood stage.

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.” The abbreviations for texture terms (or in-lieu-of texture terms) are explained in table 18.

Thermic temperature regime. See Temperature regime, soil.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The outermost inclined surface at the base of a hill; part of a footslope.

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.

Torrific moisture regime. See Aridic moisture regime.

Unified soil classification. A system that classifies mineral and organic soils for engineering purposes based on particle-size characteristics, liquid limit, and plasticity index.

Upland (geomorphologic). A general term for the higher land of a region in contrast to the low-lying, adjacent land, such as a valley or plain; land at a higher elevation than the flood plain or low stream terrace; or land above the footslope zone of the hillslope continuum.

Variation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Vegetative cover. The crown cover of all live plants in relation to the ground surface.

Vernal pool. A shallow surficial depression that is temporarily filled with water during periods of rain in winter and spring and is desiccated during the dry summer

months. It occurs as a small poorly drained depression perched above an impermeable or very slowly permeable soil horizon or bedrock.

Very deep soil. See Depth, soil.

Very shallow soil. See Depth, soil.

Water table. The upper surface of ground water or the level below which the soil is saturated by water. Also, the top of an aquifer.

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.

WEG. See Wind erodibility group.

Wilting point (or permanent wilting point). The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Wind erodibility group (WEG). A grouping of soils that have similar properties affecting their resistance to wind erosion in cultivated areas.

Windthrow. The uprooting and tipping over of trees by the wind.

Xeric moisture regime. The typical moisture regime in areas of Mediterranean climates, where winters are moist and cool and summers are warm and dry. When potential evapotranspiration is at a minimum, the moisture, which falls in winter, is particularly effective in leaching. The mean annual soil temperature is less than 22 degrees C, and the difference between the mean summer and mean winter soil temperature is 6 degrees or more.

Xerophytic. Pertaining to vegetation that is adapted to dry areas.

Tables

Soil Survey of Kern County, California, Southwest Part

Table 1.--Temperature and Precipitation

[Recorded in the period 1971-2000 at Maricopa and Bakersfield, California]

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temp. higher than--	Minimum temp. lower than--			Less than--	More than--		
°F	°F	°F	°F	°F	Units	In	In	In		In	
MARICOPA:											
January-----	56.1	36.8	46.4	76	24	34	0.83	0.16	1.47	3	0.0
February-----	63.2	42.0	52.6	80	30	112	1.29	.23	2.10	2	.0
March-----	67.4	45.1	56.3	84	31	198	1.63	.37	2.89	3	.0
April-----	75.2	48.9	62.1	95	35	352	.45	.00	.89	1	.0
May-----	84.4	55.9	70.2	104	40	608	.27	.00	.40	0	.0
June-----	92.4	63.6	78.0	108	49	835	.05	.00	.07	0	.0
July-----	97.0	68.4	82.7	110	53	1,016	.00	.00	.00	0	.0
August-----	95.1	67.6	81.4	107	53	965	.10	.00	.00	0	.0
September---	89.7	63.5	76.6	106	49	793	.36	.00	.59	0	.0
October-----	80.7	55.5	68.1	98	39	561	.21	.00	.45	0	.0
November-----	65.9	43.9	54.9	83	31	164	.71	.05	1.38	1	.0
December-----	56.8	36.1	46.4	74	22	28	.79	.19	1.37	2	.0
Yearly:											
Average----	77.0	52.3	64.6	---	---	---	---	---	---	---	---
Extreme----	114	15	---	111	21	---	---	---	---	---	---
Total-----	---	---	---	---	---	5,666	6.68	2.83	8.70	12	.0
BAKERSFIELD:											
January-----	57.3	39.3	48.3	77	26	56	1.18	0.31	2.08	3	0.0
February-----	64.2	43.0	53.6	81	30	125	1.21	.31	1.93	3	.0
March-----	68.9	46.2	57.6	86	34	240	1.41	.52	2.18	3	.1
April-----	76.2	49.6	62.9	96	37	388	.45	.00	.85	1	.0
May-----	84.4	56.8	70.6	104	43	639	.24	.00	.30	0	.0
June-----	92.3	63.7	78.0	109	50	840	.11	.00	.15	0	.0
July-----	97.9	69.2	83.5	110	56	1,040	.00	.00	.00	0	.0
August-----	96.5	68.4	82.4	110	57	1,006	.08	.00	.01	0	.0
September---	90.7	63.9	77.3	106	51	819	.15	.00	.19	0	.0
October-----	80.9	54.9	67.9	99	40	555	.30	.00	.48	0	.0
November-----	66.5	44.1	55.3	85	31	179	.61	.10	1.12	1	.0
December-----	57.4	38.2	47.8	76	25	47	.76	.24	1.23	2	.0
Yearly:											
Average----	77.8	53.1	65.4	---	---	---	---	---	---	---	---
Extreme----	114	19	---	111	24	---	---	---	---	---	---
Total-----	---	---	---	---	---	5,934	6.51	4.53	8.22	13	.1

*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Soil Survey of Kern County, California, Southwest Part

Table 2.--Precipitation at Lebec, California

[Recorded in the period 1971-2000]

Month	Precipitation				
	Average	30% chance to have--		Average number of days with 0.10 inch or more	Average snowfall
		Less than--	More than--		
	In	In	In		In
January-----	2.40	0.77	2.86	4	1.8
February-----	2.93	1.10	3.54	4	.8
March-----	2.84	.99	3.41	4	.8
April-----	.94	.31	1.18	2	.1
May-----	.51	.04	.55	1	.0
June-----	.10	.00	.12	0	.0
July-----	.04	.00	.00	0	.0
August-----	.14	.00	.00	0	.0
September----	.33	.00	.36	0	.0
October-----	.57	.17	.74	1	.0
November-----	1.10	.37	1.34	2	.1
December-----	1.73	.60	2.07	3	1.3
Yearly:					
Average----	---	9.33	15.28	---	---
Extreme----	---	---	---	---	---
Total-----	13.62	---	---	21	4.9

Soil Survey of Kern County, California, Southwest Part

Table 3.--Freeze Dates in Spring and Fall

[Recorded in the period 1971-2000 at Maricopa and Bakersfield, California]

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
MARICOPA:			
Last freezing temperature in spring:			
1 year in 10 later than-----	Jan. 7	Feb. 6	Mar. 14
2 years in 10 later than-----	Dec. 7	Jan. 24	Mar. 3
5 years in 10 later than-----	---	Dec. 6	Feb. 10
First freezing temperature in fall:			
1 year in 10 earlier than---	Dec. 15	Dec. 6	Nov. 18
2 years in 10 earlier than--	Dec. 30	Nov. 13	Nov. 23
5 years in 10 earlier than--	---	Dec. 29	Dec. 4
BAKERSFIELD:			
Last freezing temperature in spring:			
1 year in 10 later than-----	Jan. 1	Jan. 26	Feb. 24
2 years in 10 later than-----	---	Jan. 17	Feb. 13
5 years in 10 later than-----	---	Dec. 27	Jan. 25
First freezing temperature in fall:			
1 year in 10 earlier than---	Jan. 1	Dec. 7	Nov. 15
2 years in 10 earlier than--	---	Dec. 15	Nov. 23
5 years in 10 earlier than--	---	Jan. 1	Dec. 9

Soil Survey of Kern County, California, Southwest Part

Table 4.--Growing Season

[Recorded for the period 1971-2000 at Maricopa and Bakersfield, California]

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	<i>Days</i>	<i>Days</i>	<i>Days</i>
MARICOPA:			
9 years in 10	>365	317	256
8 years in 10	>365	337	269
5 years in 10	>365	>365	296
2 years in 10	>365	>365	322
1 year in 10	>365	>365	336
BAKERSFIELD:			
9 years in 10	>365	320	275
8 years in 10	>365	334	289
5 years in 10	>365	>365	318
2 years in 10	>365	>365	346
1 year in 10	>365	>365	360

Soil Survey of Kern County, California, Southwest Part

Table 5.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
101	Bakersfield fine sandy loam, drained, 0 to 1 percent slopes-----	15,298	2.3
102	Bakersfield sandy loam, partially drained, 0 to 1 percent slopes-----	7,466	1.1
110	Buttonwillow clay, partially drained, 0 to 1 percent slopes-----	3,218	0.5
120	Granoso loamy sand, 0 to 2 percent slopes-----	8,304	1.2
121	Granoso loamy sand, 2 to 5 percent slopes-----	1,966	0.3
122	Granoso loamy sand, loamy substratum, 0 to 2 percent slopes-----	2,916	0.4
123	Granoso sandy loam, 0 to 2 percent slopes, overwash-----	7,483	1.1
124	Granoso gravelly loamy sand, 0 to 2 percent slopes-----	672	*
130	Cerini sandy loam, 0 to 2 percent slopes-----	830	0.1
131	Calflax fine sandy loam, 0 to 1 percent slopes-----	532	*
132	Cerini loam, 0 to 2 percent slopes-----	43,521	6.5
133	Calflax loam, 0 to 1 percent slopes-----	20,514	3.1
134	Cerini loam, 2 to 5 percent slopes-----	1,705	0.3
140	Copus silty clay, partially drained, 0 to 1 percent slopes-----	14,131	2.1
141	Copus clay, partially drained, 0 to 1 percent slopes-----	2,233	0.3
150	Excelsior sandy loam, 0 to 2 percent slopes-----	20,498	3.0
151	Excelsior fine sandy loam, saline-sodic, 0 to 1 percent slopes-----	8,618	1.3
152	Excelsior loam, 0 to 2 percent slopes-----	8,345	1.2
153	Tupman gravelly sandy loam, 0 to 2 percent slopes-----	6,480	1.0
154	Tupman-Urban land complex, 0 to 5 percent slopes-----	311	*
160	Fages clay, 0 to 1 percent slopes-----	6,921	1.0
179	Padres sandy loam, 0 to 2 percent slopes-----	11	*
180	Garces loam, 0 to 1 percent slopes-----	10,019	1.5
190	Guijarral sandy loam, 0 to 2 percent slopes-----	4,510	0.7
191	Guijarral sandy loam, 2 to 9 percent slopes-----	12,988	1.9
192	Guijarral-Klipstein complex, 2 to 5 percent slopes-----	25,420	3.8
193	Guijarral gravelly sandy loam, 2 to 5 percent slopes-----	18,935	2.8
195	Guijarral complex, 2 to 9 percent slopes-----	1,021	0.2
197	Klipstein-Guijarral complex, 5 to 15 percent slopes-----	3,846	0.6
200	Hesperia loamy sand, 0 to 2 percent slopes-----	1,504	0.2
201	Hesperia sandy loam, 0 to 2 percent slopes-----	5,167	0.8
210	Kimberlina fine sandy loam, 0 to 2 percent slopes-----	15,530	2.3
211	Kimberlina fine sandy loam, 2 to 5 percent slopes-----	13,854	2.1
212	Kimberlina fine sandy loam, saline-sodic, 0 to 2 percent slopes-----	7,874	1.2
214	Kimberlina gravelly sandy loam, 0 to 2 percent slopes-----	883	0.1
215	Kimberlina gravelly sandy loam, 5 to 9 percent slopes-----	3,629	0.5
216	Kimberlina-Granoso complex, 0 to 5 percent slopes, occasionally flooded-----	672	*
217	Kimberlina-Urban land complex, 0 to 5 percent slopes-----	1,801	0.3
219	Xerorthents-Badlands complex, 30 to 75 percent slopes-----	345	*
220	Lokern clay, drained, 0 to 1 percent slopes-----	10,227	1.5
221	Lokern clay, partially drained, 0 to 1 percent slopes-----	764	0.1
230	Milagro loamy sand, 0 to 1 percent slopes-----	3,009	0.4
231	Milagro fine sandy loam, 0 to 1 percent slopes-----	5,998	0.9
240	Millox clay loam, partially drained, 0 to 1 percent slopes-----	3,312	0.5
241	Millox clay loam, partially drained, nonsaline, 0 to 1 percent slopes----	3,310	0.5
242	Millox, partially drained-Tennco complex, 0 to 1 percent slopes-----	2,514	0.4
243	Millox-Zalvidea complex, partially drained, 0 to 1 percent slopes-----	3,737	0.6
246	Whitewolf coarse sandy loam, 0 to 2 percent slopes-----	137	*
250	Oldriver loam, drained, 0 to 1 percent slopes-----	444	*
251	Oldriver loam, partially drained, sodic, 0 to 1 percent slopes-----	8,413	1.3
260	Panoche loam, 0 to 1 percent slopes-----	1,483	0.2
270	Pits and dumps-----	2,167	0.3
280	Premier sandy loam, 0 to 2 percent slopes-----	14,253	2.1
281	Premier sandy loam, 2 to 5 percent slopes-----	351	*
290	Riverwash-----	1,243	0.2
300	Tennco fine sandy loam, 0 to 1 percent slopes-----	3,474	0.5
310	Vineland loamy sand, drained, 0 to 1 percent slopes-----	5,865	0.9
312	Vineland-Bakersfield complex, 0 to 1 percent slopes, drained-----	8,297	1.2
320	Wasco sandy loam, 0 to 1 percent slopes-----	1,277	0.2
330	Cuyama sandy loam, 2 to 5 percent slopes-----	924	0.1

See footnote at end of table.

Soil Survey of Kern County, California, Southwest Part

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
331	Cuyama sandy loam, 5 to 15 percent slopes-----	1,873	0.3
332	Cuyama sandy loam, 15 to 30 percent slopes-----	277	*
340	Weedpatch clay loam, 0 to 1 percent slopes-----	6,324	0.9
350	Posochanet silt loam, saline-sodic, 0 to 1 percent slopes-----	6,073	0.9
351	Posochanet silty clay loam, saline-sodic, 0 to 1 percent slopes-----	1,051	0.2
352	Posochanet-Posochanet, partially reclaimed, association, 0 to 1 percent slopes-----		
		2,888	0.4
360	Wheelridge gravelly loamy sand, 0 to 2 percent slopes-----	3,158	0.5
370	Whitewolf loamy sand, 0 to 2 percent slopes-----	1,810	0.3
371	Whitewolf loamy sand, 2 to 5 percent slopes-----	892	0.1
380	Zalvidea sandy loam, partially drained, 0 to 2 percent slopes-----	1,402	0.2
381	Zalvidea sandy clay loam, partially drained, 0 to 1 percent slopes-----	723	0.1
389	Xerofluvents-Haploxerepts-Riverwash complex, 0 to 15 percent slopes-----	1,570	0.2
390	Pleito sandy clay loam, 0 to 2 percent slopes-----	727	0.1
391	Pleito sandy clay loam, 2 to 5 percent slopes-----	3,866	0.6
392	Pleito sandy clay loam, 5 to 9 percent slopes-----	1,007	0.1
393	Pleito sandy clay loam, 9 to 30 percent slopes-----	3,203	0.5
394	Pleito-Xeric Torriorthents, very gravelly, association, 15 to 100 percent slopes-----		
		2,859	0.4
395	Pleito-Emidio-Loslobos association, 15 to 75 percent slopes-----	11,545	1.7
396	Pleito-Loslobos association, 15 to 75 percent slopes-----	4,681	0.7
398	Calcic Haploxerepts-Calcic Pachic Argixerolls, fine-Xerorthents, shallow, complex, 30 to 75 percent slopes-----		
		3,953	0.6
400	Loslobos-Xeric Torriorthents, very gravelly-Badlands association, 30 to 50 percent slopes-----		
		14,282	2.1
401	Loslobos loam, 50 to 100 percent slopes-----	522	*
402	Loslobos-Walong association, 5 to 30 percent slopes-----	858	0.1
403	Loslobos-Calleguas association, 30 to 100 percent slopes-----	8,560	1.3
404	Loslobos sandy loam, moist, 40 to 85 percent slopes-----	377	*
430	Little signal-Cochora association, 15 to 30 percent slopes-----	2,134	0.3
431	Little signal-Cochora association, 30 to 50 percent slopes-----	6,721	1.0
432	Little signal-Badlands-Cochora association, 15 to 75 percent slopes-----	11,961	1.8
440	Elkhills-Pyxo association, 15 to 50 percent slopes-----	1,591	0.2
441	Sodic Haplocambids, thick, 9 to 30 percent slopes-----	4,150	0.6
442	Elkhills sandy loam, 5 to 15 percent slopes-----	5,725	0.9
443	Elkhills-Badlands complex, 30 to 50 percent slopes-----	1,846	0.3
444	Elkhills sandy loam, 15 to 30 percent slopes-----	4,279	0.6
445	Sodic Haplocambids, thick-Elkhills complex, 30 to 50 percent slopes-----	274	*
451	Beam-Panoza-Hillbrick complex, 30 to 50 percent slopes-----	8,281	1.2
460	Geghus-Tecuya association, 9 to 30 percent slopes-----	1,951	0.3
461	Geghus-Tecuya association, 30 to 75 percent slopes-----	1,269	0.2
462	Geghus-Xeric Torriorthents, very gravelly, association, 30 to 50 percent slopes-----		
		1,424	0.2
470	Pyxo-Cochora association, 15 to 30 percent slopes-----	5,115	0.8
471	Pyxo-Cochora-Badlands association, 15 to 75 percent slopes-----	6,212	0.9
472	Pyxo-Kimberlina-Cochora association, 2 to 15 percent slopes-----	955	0.1
480	Pyxo-Elkhills association, 30 to 50 percent slopes-----	554	*
490	Padres sandy loam, 2 to 9 percent slopes-----	852	0.1
500	Bitcreek sandy clay loam, 2 to 5 percent slopes-----	1,034	0.2
510	Beam-Panoza-Hillbrick complex, 50 to 75 percent slopes-----	4,338	0.6
511	Beam-Panoza-Hillbrick complex, 15 to 30 percent slopes-----	244	*
515	Zonap-Badlands-Beam complex, 30 to 75 percent slopes-----	401	*
516	Zonap-Beam complex, 15 to 30 percent slopes-----	1,924	0.3
530	Tehachapi loam, 2 to 5 percent slopes-----	171	*
531	Tehachapi gravelly loam, 5 to 30 percent slopes-----	449	*
540	Xeric Torriorthents-Badlands complex, 30 to 75 percent slopes-----	7,429	1.1
550	Elkhills-Welport association, 9 to 30 percent slopes-----	7,548	1.1
560	Laval-Pleitito complex, 1 to 5 percent slopes-----	2,680	0.4
561	Laval-Pleitito complex, 5 to 15 percent slopes-----	621	*
570	Hillbrick-Rock outcrop complex, 15 to 50 percent slopes-----	370	*

See footnote at end of table.

Soil Survey of Kern County, California, Southwest Part

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
571	Hillbrick-Rock outcrop complex, 15 to 75 percent slopes-----	1,121	0.2
580	Reward-Hillbrick association, 15 to 30 percent slopes-----	536	*
581	Reward channery loam, 30 to 50 percent slopes-----	1,739	0.3
583	Bellyspring-Panoza complex, 9 to 15 percent slopes-----	274	*
584	Bellyspring-Panoza complex, 15 to 30 percent slopes-----	258	*
585	Bellyspring-Panoza complex, 30 to 50 percent slopes-----	446	*
586	Panoza-Beam complex, 15 to 30 percent slopes-----	244	*
587	Panoza-Beam complex, 30 to 50 percent slopes-----	40	*
588	Panoza-Beam complex, 50 to 75 percent slopes-----	139	*
590	Gorman-Typic Xerorthents, mesic-Xerorthents, shallow, complex, 30 to 100 percent slopes-----	4,640	0.7
591	Geghus-Selby complex, 30 to 75 percent slopes-----	2,395	0.4
600	Positas-Bitcreek complex, 2 to 9 percent slopes-----	2,864	0.4
610	Balcom-Rock outcrop complex, 50 to 75 percent slopes-----	4,495	0.7
620	Typic Xerorthents, mesic-Haploxerepts-Xerorthents, sandy, association, 30 to 75 percent slopes-----	1,548	0.2
640	Bitcreek-Dibble-Eaglerest complex, 15 to 50 percent slopes-----	5,675	0.8
650	Lithic Argixerolls-Lithic Xerorthents-Rock outcrop complex, 50 to 75 percent slopes, mesic-----	375	*
660	Elkhills-Legray complex, 15 to 30 percent slopes-----	1,091	0.2
661	Elkhills-Legray complex, 30 to 50 percent slopes-----	627	*
670	Harrisranch-Rock outcrop complex, 50 to 75 percent slopes-----	3,258	0.5
680	Milham sandy loam, 0 to 5 percent slopes-----	278	*
690	Dibble-Geghus complex, 50 to 75 percent slopes-----	3,766	0.6
700	Xerolls, loamy-skeletal-Los Gatos complex, 30 to 75 percent slopes-----	2,055	0.3
720	Friant-Geghus-Lithic Xerorthents complex, 30 to 60 percent slopes, thermic-----	2,013	0.3
724	Elkhills sandy loam, 30 to 60 percent slopes-----	260	*
725	Sodic Haplocambids, thick, 9 to 15 percent slopes-----	9	*
726	Sodic Haplocambids, thick, 15 to 30 percent slopes-----	362	*
727	Sodic Haplocambids, thick, 30 to 50 percent slopes-----	36	*
728	Torriorthents, very thin, 30 to 50 percent slopes-----	152	*
729	Sodic Haplocambids, thick-Torriorthents, thin-Torriorthents, very thin, eroded, complex, 30 to 60 percent slopes-----	2,372	0.4
730	Haplocambids, thick-Elkhills complex, 9 to 15 percent slopes-----	2,454	0.4
731	Haplocambids, thick-Elkhills complex, 15 to 30 percent slopes-----	4,898	0.7
732	Elkhills-Haplocambids, thick, complex, 30 to 50 percent slopes-----	1,330	0.2
733	Sodic Haplocambids, thick-Torriorthents, thin, complex, 15 to 30 percent slopes-----	3,569	0.5
734	Sodic Haplocambids, thick-Torriorthents, very thin, eroded-Elkhills complex, 15 to 50 percent slopes-----	4,410	0.7
735	Sodic Haplocambids, thick-Elkhills-Torriorthents, thin, complex, 30 to 60 percent slopes-----	1,891	0.3
750	Ballinger silty clay, 15 to 30 percent slopes-----	672	*
760	Ballinger silty clay, 45 to 75 percent slopes-----	245	*
780	Stutzville silty clay loam, strongly saline, 0 to 2 percent slopes-----	28	*
850	Xerofluvents, 0 to 5 percent slopes-----	146	*
860	Hawk gravelly sandy loam, 9 to 15 percent slopes-----	918	0.1
870	Frazier very gravelly sandy loam, 50 to 75 percent slopes-----	4,304	0.6
880	Chuchupate gravelly sandy loam, 50 to 75 percent slopes-----	1,285	0.2
890	Gorman sandy loam, 15 to 50 percent slopes-----	333	*
919	Zonap-Harrisranch-Beam complex, 15 to 50 percent slopes-----	1,217	0.2
930	Bitcreek-Shimmon-Balhud complex, 9 to 50 percent slopes-----	6,451	1.0
932	Bitcreek-Shimmon-Balhud complex, 30 to 75 percent slopes-----	3,155	0.5
940	Bitcreek sandy loam, 2 to 9 percent slopes-----	308	*
950	Pleito-Ballinger-Balhud complex, 15 to 50 percent slopes-----	998	0.1
951	Bitcreek-Balhud-Ballinger complex, 5 to 30 percent slopes-----	899	0.1
954	Typic Haploxeralfs, fine-Haploxerolls, coarse-loamy, complex, 15 to 60 percent slopes-----	1,020	0.2
955	Calcic Haploxerepts-Xerorthents, shallow-Badlands complex, 30 to 100 percent slopes-----	3,662	0.5

See footnote at end of table.

Soil Survey of Kern County, California, Southwest Part

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
970	Harrisranch-Bitcreek complex, 9 to 50 percent slopes-----	1,188	0.2
980	Area not surveyed, access denied-----	12,959	1.9
W	Water-----	2,838	0.4
	Total-----	672,400	100.0

* Less than 0.1 percent.

Soil Survey of Kern County, California, Southwest Part

Table 6.--Land Capability Classification

[Land capability based on state criteria developed in 1978 and revised in 1992]

Map symbol and soil name	Land capability	
	N	I
101: Bakersfield, drained-----	7e	2s-4
102: Bakersfield, partially drained-----	7s	3s-6
110: Buttonwillow, partially drained-----	7w	2w-5
120: Granoso-----	7e	3e-4
121: Granoso-----	7e	3e-4
122: Granoso, loamy substratum-----	7e	3e-4
123: Granoso-----	7s	3s-4
124: Granoso-----	7e	4s-4
130: Cerini-----	7e	2e-1
131: Calflax-----	7s	3s-6
132: Cerini-----	7e	2e-1
133: Calflax-----	7s	3s-6
134: Cerini-----	7e	2e-1
140: Copus silty clay, partially drained-----	7w	2w-2
141: Copus clay, partially drained-----	7w	2w-2
150: Excelsior-----	7e	2s-1
151: Excelsior, saline-sodic-----	7e	2s-6
152: Excelsior-----	7e	2s-1
153: Tupman-----	7e	2e-4

Soil Survey of Kern County, California, Southwest Part

Table 6.--Land Capability Classification--Continued

Map symbol and soil name	Land capability	
	N	I
154: Tupman----- Urban land.	7e	3e-4
160: Fages-----	7s	4s-6
179: Padres-----	4s	2s-1
180: Garces-----	7s	3s-6
190: Guijarral-----	7e	2e-4
191: Guijarral-----	7e	3e-4
192: Guijarral----- Klipstein-----	7e	3e-4 4e-4
193: Guijarral-----	7e	3e-4
195: Guijarral, extremely gravelly substratum- Guijarral-----	7e	4e-4 3e-4
197: Klipstein----- Guijarral-----	7e	4e-4 3e-4
200: Hesperia-----	6e	2s-1
201: Hesperia-----	6e	2s-1
210: Kimberlina-----	7e	1
211: Kimberlina-----	7e	2e-1
212: Kimberlina, saline-sodic-----	7s	2s-6
214: Kimberlina-----	7e	2e-1
215: Kimberlina-----	7e	2e-4

Soil Survey of Kern County, California, Southwest Part

Table 6.--Land Capability Classification--Continued

Map symbol and soil name	Land capability	
	N	I
216:		
Kimberlina, occasionally flooded-----	7e	2e-1
Granoso, occasionally flooded-----	7e	3e-4
217:		
Kimberlina-----	7e	2e-1
Urban land.		
219:		
Xerorthents-----	7e	---
Badlands-----	8	---
220:		
Lokern, drained-----	7s	2s-5
221:		
Lokern, partially drained-----	7w	3w-5
230:		
Milagro-----	7e	3s-1
231:		
Milagro-----	7e	2s-1
240:		
Millox, partially drained-----	7s	3s-6
241:		
Millox, partially drained, nonsaline-----	7s	2s-6
242:		
Millox, partially drained-----	7s	3s-6
Tennco-----	7s	4s-6
243:		
Millox, partially drained-----	7s	2s-6
Zalvidea, partially drained-----	7s	2s-6
246:		
Whitewolf-----	7s	3s-4
250:		
Oldriver-----	7s	2s-3
251:		
Oldriver, partially drained, sodic-----	7w	2w-2
260:		
Panoche-----	7e	3e-1
270:		
Pits-----	8	---
Dumps-----	8	---
280:		
Premier-----	7e	2e-4

Soil Survey of Kern County, California, Southwest Part

Table 6.--Land Capability Classification--Continued

Map symbol and soil name	Land capability	
	N	I
281: Premier-----	7e	3e-4
290: Riverwash-----	8	---
300: Tennco-----	7s	4s-6
310: Vineland, drained-----	7e	3s-4
312: Vineland, drained-----	7e	3s-4
Bakersfield, drained-----	7s	6s
320: Wasco-----	7e	2s-1
330: Cuyama-----	4e	2e-1
331: Cuyama-----	4e	2e-1
332: Cuyama-----	4e	2e-1
340: Weedpatch-----	7s	3s-6
350: Posochanet, saline-sodic-----	7s	2s-6
351: Posochanet, saline-sodic-----	7s	2s-6
352: Posochanet-----	7e	4e-6
Posochanet, partially reclaimed-----	7e	3e-6
360: Wheelridge-----	7s	4s-4
370: Whitewolf-----	7s	3s-4
371: Whitewolf-----	7e	3s-4
380: Zalvidea, partially drained-----	7s	2s-4
381: Zalvidea, partially drained-----	7s	2s-4

Soil Survey of Kern County, California, Southwest Part

Table 6.--Land Capability Classification--Continued

Map symbol and soil name	Land capability	
	N	I
389:		
Xerofluvents-----	4e	---
Haploxerepts-----	7e	---
Riverwash-----	8	---
390:		
Pleito-----	4s	2e-1
391:		
Pleito-----	4e	2e-1
392:		
Pleito-----	4e	2e-1
393:		
Pleito-----	7e	4e-1
394:		
Pleito-----	7e	---
Xeric Torriorthents, very gravelly-----	7e	---
395:		
Pleito-----	7e	---
Emidio-----	4e	---
Loslobos-----	7e	---
396:		
Pleito-----	7e	---
Loslobos-----	7e	---
398:		
Calcic Haploxerepts-----	7e	---
Calcic Pachic Argixerolls, fine-----	7e	---
Xerorthents, shallow-----	7e	---
400:		
Loslobos-----	7e	---
Xeric Torriorthents, very gravelly-----	7e	---
Badlands-----	8	---
401:		
Loslobos-----	7e	---
402:		
Loslobos-----	7e	---
Walong-----	7e	---
403:		
Loslobos-----	7e	---
Calleguas-----	7e	---

Soil Survey of Kern County, California, Southwest Part

Table 6.--Land Capability Classification--Continued

Map symbol and soil name	Land capability	
	N	I
404: Loslobos, moist-----	7e	---
430: Littlesignal-----	7e	---
Cochora-----	7e	---
431: Littlesignal-----	7e	---
Cochora-----	7e	---
432: Littlesignal-----	7e	---
Badlands-----	8	---
Cochora-----	7e	---
440: Elkhills-----	7e	---
Pyxo-----	7e	---
441: Sodic Haplocambids, thick-----	7e	---
442: Elkhills-----	7e	---
443: Elkhills-----	7e	---
Badlands-----	8	---
444: Elkhills-----	7e	---
445: Sodic Haplocambids, thick-----	7e	---
Elkhills-----	7e	---
451: Beam-----	7e	---
Panoza-----	6e	---
Hillbrick-----	7e	---
460: Geghus-----	7e	---
Tecuya-----	7e	---
461: Geghus-----	7e	---
Tecuya-----	7e	---

Soil Survey of Kern County, California, Southwest Part

Table 6.--Land Capability Classification--Continued

Map symbol and soil name	Land capability	
	N	I
462:		
Geghus-----	7e	---
Xeric Torriorthents, very gravelly-----	7e	---
470:		
Pyxo-----	7e	---
Cochora-----	7e	---
471:		
Pyxo-----	7e	---
Cochora-----	7e	---
Badlands-----	8	---
472:		
Pyxo-----	7e	5e
Kimberlina-----	7e	3e-1
Cochora-----	7e	7e
480:		
Pyxo, dry-----	7e	---
Elkhills-----	7e	---
490:		
Padres-----	4e	2e-1
500:		
Bitcreek-----	7e	---
510:		
Beam-----	7e	---
Panoza-----	7e	---
Hillbrick-----	7e	---
511:		
Beam-----	7e	---
Panoza-----	4e	---
Hillbrick-----	7e	---
515:		
Zonap-----	7e	---
Badlands-----	8	---
Beam-----	7e	---
516:		
Zonap-----	4e	---
Beam-----	7e	---

Soil Survey of Kern County, California, Southwest Part

Table 6.--Land Capability Classification--Continued

Map symbol and soil name	Land capability	
	N	I
530: Tehachapi-----	3e	2e-4
531: Tehachapi-----	3e	3e-4
540: Xeric Torriorthents-----	7e	---
Badlands-----	8	---
550: Elkhills-----	7e	---
Welport-----	4e	---
560: Laval-----	7e	2e-4
Pleitito-----	7e	2e-4
561: Laval-----	7e	2e-4
Pleitito-----	7e	2e-4
570: Hillbrick-----	7e	---
Rock outcrop-----	8	---
571: Hillbrick-----	7e	---
Rock outcrop-----	8	---
580: Reward-----	6e	---
Hillbrick-----	7e	---
581: Reward-----	6e	---
583: Bellyspring-----	4e	---
Panoza-----	4e	---
584: Bellyspring-----	4e	---
Panoza-----	4e	---
585: Bellyspring-----	6e	---
Panoza-----	6e	---

Soil Survey of Kern County, California, Southwest Part

Table 6.--Land Capability Classification--Continued

Map symbol and soil name	Land capability	
	N	I
586:		
Panoza-----	4e	---
Beam-----	7e	---
587:		
Panoza-----	6e	---
Beam-----	7e	---
588:		
Panoza-----	7e	---
Beam-----	7e	---
590:		
Gorman-----	7e	---
Typic Xerorthents, mesic-----	7e	---
Xerorthents, shallow-----	7e	---
591:		
Geghus-----	7e	---
Selby-----	7e	---
600:		
Positas-----	7e	---
Bitcreek-----	7e	---
610:		
Balcom-----	7e	---
Rock outcrop-----	8	---
620:		
Typic Xerorthents, mesic-----	7e	---
Haploxerepts-----	7e	---
Xerorthents, sandy-----	7e	---
640:		
Bitcreek-----	7e	---
Dibble-----	7e	---
Eaglerest-----	7e	---
650:		
Lithic Argixerolls-----	7e	---
Lithic Xerorthents, mesic-----	7e	---
Rock outcrop-----	8	---
660:		
Elkhills-----	7e	---
Legray-----	7e	---

Soil Survey of Kern County, California, Southwest Part

Table 6.--Land Capability Classification--Continued

Map symbol and soil name	Land capability	
	N	I
661: Elkhills-----	7e	---
Legray-----	7e	---
670: Harrisranch-----	7e	---
Rock outcrop-----	8	---
680: Milham-----	7e	3e-1
690: Dibble-----	7e	---
Geghus-----	7e	---
700: Xerolls, loamy-skeletal-----	7e	---
Los Gatos-----	7e	---
720: Friant-----	7e	---
Geghus-----	7e	---
Lithic Xerorthents, thermic-----	7e	---
724: Elkhills-----	7e	---
725: Sodic Haplocambids, thick-----	7e	---
726: Sodic Haplocambids, thick-----	7e	---
727: Sodic Haplocambids, thick-----	7e	---
728: Torriorthents, very thin-----	7e	---
729: Sodic Haplocambids, thick-----	7e	---
Torriorthents, thin-----	7e	---
Torriorthents, very thin, eroded-----	7e	---
730: Haplocambids, thick-----	7e	---
Elkhills-----	7e	---
731: Haplocambids, thick-----	7e	---
Elkhills-----	7e	---

Soil Survey of Kern County, California, Southwest Part

Table 6.--Land Capability Classification--Continued

Map symbol and soil name	Land capability	
	N	I
732:		
Elkhills-----	7e	---
Haplocambids, thick-----	7e	---
733:		
Sodic Haplocambids, thick-----	7e	---
Torriorthents, thin-----	7e	---
734:		
Sodic Haplocambids, thick-----	7e	---
Torriorthents, very thin, eroded-----	7e	---
Elkhills-----	7e	---
735:		
Sodic Haplocambids, thick-----	7e	---
Elkhills-----	7e	---
Torriorthents, thin-----	7e	---
750:		
Ballinger-----	4e-9	4e-9
760:		
Ballinger-----	7e	7e
780:		
Stutzville-----	3s-6	2s-6
850:		
Xerofluvents-----	7e	---
860:		
Hawk-----	3e	---
870:		
Frazier-----	7e	---
880:		
Chuchupate-----	7e	---
890:		
Gorman-----	7e	---
919:		
Zonap-----	7e	---
Harrisranch-----	7e	---
Beam-----	7e	---
930:		
Bitcreek-----	7e	---
Shimmon-----	7e	---
Balhud-----	7e	---

Soil Survey of Kern County, California, Southwest Part

Table 6.--Land Capability Classification--Continued

Map symbol and soil name	Land capability	
	N	I
932:		
Bitcreek-----	7e	---
Shimmon-----	7e	---
Balhud-----	7e	---
940:		
Bitcreek-----	7e	---
950:		
Pleito-----	7e	---
Ballinger-----	7e	---
Balhud-----	7e	---
951:		
Bitcreek-----	7e	---
Balhud-----	7e	---
Ballinger-----	7e	---
954:		
Typic Haploxeralfs, fine-----	7e	---
Haploxerolls, coarse-loamy-----	7e	---
955:		
Calcic Haploxerepts-----	7e	---
Xerorthents, shallow-----	7e	---
Badlands-----	8	---
970:		
Harrisranch-----	3e	---
Bitcreek-----	7e	---
980:		
Area not surveyed, access denied.		
W:		
Water.		

Soil Survey of Kern County, California, Southwest Part

Table 7.--Prime Farmland

[Only the soils considered prime farmland are listed. Urban or built-up areas of the units listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name]

Map symbol	Soil name
101	Bakersfield fine sandy loam, drained, 0 to 1 percent slopes (where irrigated)
110	Buttonwillow clay, partially drained, 0 to 1 percent slopes (where irrigated)
122	Granoso loamy sand, loamy substratum, 0 to 2 percent slopes (where irrigated)
130	Cerini sandy loam, 0 to 2 percent slopes (where irrigated)
132	Cerini loam, 0 to 2 percent slopes (where irrigated)
134	Cerini loam, 2 to 5 percent slopes (where irrigated)
153	Tupman gravelly sandy loam, 0 to 2 percent slopes (where irrigated)
179	Padres sandy loam, 0 to 2 percent slopes (where irrigated)
200	Hesperia loamy sand, 0 to 2 percent slopes (where irrigated)
201	Hesperia sandy loam, 0 to 2 percent slopes (where irrigated)
210	Kimberlina fine sandy loam, 0 to 2 percent slopes (where irrigated)
214	Kimberlina gravelly sandy loam, 0 to 2 percent slopes (where irrigated)
215	Kimberlina gravelly sandy loam, 5 to 9 percent slopes (where irrigated)
220	Lokern clay, drained, 0 to 1 percent slopes (where irrigated)
230	Milagro loamy sand, 0 to 1 percent slopes (where irrigated)
231	Milagro fine sandy loam, 0 to 1 percent slopes (where irrigated)
246	Whitewolf coarse sandy loam, 0 to 2 percent slopes (where irrigated)
260	Panoche loam, 0 to 1 percent slopes (where irrigated)
280	Premier sandy loam, 0 to 2 percent slopes (where irrigated)
281	Premier sandy loam, 2 to 5 percent slopes (where irrigated)
320	Wasco sandy loam, 0 to 1 percent slopes (where irrigated)
390	Pleito sandy clay loam, 0 to 2 percent slopes (where irrigated)
391	Pleito sandy clay loam, 2 to 5 percent slopes (where irrigated)
392	Pleito sandy clay loam, 5 to 9 percent slopes (where irrigated)
490	Padres sandy loam, 2 to 9 percent slopes (where irrigated)
500	Bitcreek sandy clay loam, 2 to 5 percent slopes (where irrigated)
600	Positas-Bitcreek complex, 2 to 9 percent slopes (where irrigated)
940	Bitcreek sandy loam, 2 to 9 percent slopes (where irrigated)

Soil Survey of Kern County, California, Southwest Part

Table 8.--Farmland of Statewide Importance

[Urban or built-up areas of the units listed are not considered farmland of statewide importance]

Map symbol	Map unit name
102	Bakersfield sandy loam, partially drained, 0 to 1 percent slopes
120	Granoso loamy sand, 0 to 2 percent slopes
121	Granoso loamy sand, 2 to 5 percent slopes
123	Granoso sandy loam, 0 to 2 percent slopes, overwash
124	Granoso gravelly loamy sand, 0 to 2 percent slopes
131	Calflax fine sandy loam, 0 to 1 percent slopes
133	Calflax loam, 0 to 1 percent slopes
140	Copus silty clay, partially drained, 0 to 1 percent slopes
150	Excelsior sandy loam, 0 to 2 percent slopes
152	Excelsior loam, 0 to 2 percent slopes
180	Garces loam, 0 to 1 percent slopes
190	Guijarral sandy loam, 0 to 2 percent slopes
191	Guijarral sandy loam, 2 to 9 percent slopes
192	Guijarral-Klipstein complex, 2 to 5 percent slopes
211	Kimberlina fine sandy loam, 2 to 5 percent slopes
212	Kimberlina fine sandy loam, saline-sodic, 0 to 2 percent slopes
221	Lokern clay, partially drained, 0 to 1 percent slopes
250	Oldriver loam, drained, 0 to 1 percent slopes
251	Oldriver loam, partially drained, sodic, 0 to 1 percent slopes
330	Cuyama sandy loam, 2 to 5 percent slopes
331	Cuyama sandy loam, 5 to 15 percent slopes
370	Whitewolf loamy sand, 0 to 2 percent slopes
371	Whitewolf loamy sand, 2 to 5 percent slopes
380	Zalvidea sandy loam, partially drained, 0 to 2 percent slopes
381	Zalvidea sandy clay loam, partially drained, 0 to 1 percent slopes
442	Elkhills sandy loam, 5 to 15 percent slopes
680	Milham sandy loam, 0 to 5 percent slopes

Soil Survey of Kern County, California, Southwest Part

Table 9.--California Revised Storie Index

[The California Revised Storie Index expresses numerically the relative degree of suitability of a soil for general intensive agricultural uses at the time of evaluation. The rating is based on soil characteristics only and is obtained by evaluating such factors as soil depth, texture of the surface soil, subsoil characteristics, and surface relief.

Map symbol and soil name	Storie index rating	Storie grade
101: Bakersfield, drained-----	84	Grade one (excellent)
102: Bakersfield, partially drained-----	47	Grade three (fair)
110: Buttonwillow, partially drained-----	39	Grade four (poor)
120: Granoso-----	67	Grade two (good)
121: Granoso-----	62	Grade two (good)
122: Granoso, loamy substratum-----	67	Grade two (good)
123: Granoso-----	79	Grade two (good)
124: Granoso-----	57	Grade three (fair)
130: Cerini-----	82	Grade one (excellent)
131: Calflax-----	62	Grade two (good)
132: Cerini-----	86	Grade one (excellent)
133: Calflax-----	62	Grade two (good)
134: Cerini-----	83	Grade one (excellent)
140: Copus silty clay, partially drained-----	20	Grade five (very poor)
141: Copus clay, partially drained-----	17	Grade five (very poor)
150: Excelsior-----	76	Grade two (good)
151: Excelsior, saline-sodic-----	57	Grade three (fair)
152: Excelsior-----	80	Grade two (good)

Soil Survey of Kern County, California, Southwest Part

Table 9.--California Revised Storie Index--Continued

Map symbol and soil name	Storie index rating	Storie grade
153: Tupman-----	47	Grade three (fair)
154: Tupman----- Urban land.	45	Grade three (fair)
160: Fages-----	2	Grade six (nonagricultural)
179: Padres-----	81	Grade one (excellent)
180: Garces-----	45	Grade three (fair)
190: Guijarral-----	83	Grade one (excellent)
191: Guijarral-----	80	Grade two (good)
192: Guijarral----- Klipstein-----	80 74	Grade one (excellent) Grade two (good)
193: Guijarral-----	57	Grade three (fair)
195: Guijarral, extremely gravelly substratum----- Guijarral-----	54 54	Grade three (fair) Grade three (fair)
197: Klipstein----- Guijarral-----	69 48	Grade two (good) Grade three (fair)
200: Hesperia-----	70	Grade two (good)
201: Hesperia-----	83	Grade one (excellent)
210: Kimberlina-----	86	Grade one (excellent)
211: Kimberlina-----	83	Grade one (excellent)
212: Kimberlina-----	71	Grade two (good)
214: Kimberlina-----	57	Grade three (fair)
215: Kimberlina-----	55	Grade three (fair)

Soil Survey of Kern County, California, Southwest Part

Table 9.--California Revised Storie Index--Continued

Map symbol and soil name	Storie index rating	Storie grade
216: Kimberlina, occasionally flooded-----	75	Grade two (good)
Granoso, occasionally flooded-----	66	Grade two (good)
217: Kimberlina-----	88	Grade one (excellent)
Urban land.		
219: Xerorthents-----	11	Grade five (very poor)
Badlands.		
220: Lokern, drained-----	43	Grade three (fair)
221: Lokern, partially drained-----	32	Grade four (poor)
230: Milagro-----	69	Grade two (good)
231: Milagro-----	87	Grade one (excellent)
240: Millox, partially drained-----	37	Grade four (poor)
241: Millox, partially drained, nonsaline-----	56	Grade three (fair)
242: Millox, partially drained-----	37	Grade four (poor)
Tennco-----	1	Grade six (nonagricultural)
243: Millox, partially drained-----	56	Grade three (fair)
Zalvidea, partially drained-----	64	Grade two (good)
246: Whitewolf-----	75	Grade two (good)
250: Oldriver-----	68	Grade two (good)
251: Oldriver, partially drained, sodic-----	50	Grade three (fair)
260: Panoche-----	89	Grade one (excellent)
270: Pits. Dumps.		
280: Premier-----	83	Grade one (excellent)

Soil Survey of Kern County, California, Southwest Part

Table 9.--California Revised Storie Index--Continued

Map symbol and soil name	Storie index rating	Storie grade
281: Premier-----	88	Grade one (excellent)
290: Riverwash.		
300: Tennco-----	1	Grade six (nonagricultural)
310: Vineland, drained-----	67	Grade two (good)
312: Vineland, drained-----	67	Grade two (good)
Bakersfield, drained-----	84	Grade one (excellent)
320: Wasco-----	83	Grade one (excellent)
330: Cuyama-----	69	Grade two (good)
331: Cuyama-----	72	Grade two (good)
332: Cuyama-----	63	Grade two (good)
340: Weedpatch-----	84	Grade one (excellent)
350: Posochanet, saline-sodic-----	14	Grade five (very poor)
351: Posochanet, saline-sodic-----	13	Grade five (very poor)
352: Posochanet-----	14	Grade five (very poor)
Posochanet, partially reclaimed-----	48	Grade three (fair)
360: Wheelridge-----	48	Grade three (fair)
370: Whitewolf-----	60	Grade two (good)
371: Whitewolf-----	58	Grade three (fair)
380: Zalvidea, partially drained-----	64	Grade two (good)
381: Zalvidea, partially drained-----	64	Grade two (good)
389: Xerofluvents-----	41	Grade three (fair)

Soil Survey of Kern County, California, Southwest Part

Table 9.--California Revised Storie Index--Continued

Map symbol and soil name	Storie index rating	Storie grade
389: Haploxerepts----- Riverwash.	44	Grade three (fair)
390: Pleito-----	78	Grade two (good)
391: Pleito-----	76	Grade two (good)
392: Pleito-----	81	Grade one (excellent)
393: Pleito-----	72	Grade two (good)
394: Pleito----- Xeric Torriorthents, very gravelly-----	50 11	Grade three (fair) Grade five (very poor)
395: Pleito----- Emidio----- Loslobos-----	58 82 46	Grade three (fair) Grade one (excellent) Grade three (fair)
396: Pleito----- Loslobos-----	58 44	Grade three (fair) Grade three (fair)
398: Calcic Haploxerepts----- Calcic Pachic Argixerolls, fine----- Xerorthents, shallow-----	43 44 13	Grade three (fair) Grade three (fair) Grade five (very poor)
400: Loslobos----- Xeric Torriorthents, very gravelly----- Badlands.	52 15	Grade three (fair) Grade five (very poor)
401: Loslobos-----	29	Grade four (poor)
402: Loslobos----- Walong-----	79 23	Grade two (good) Grade four (poor)
403: Loslobos----- Calleguas-----	34 12	Grade four (poor) Grade five (very poor)
404: Loslobos, moist-----	35	Grade four (poor)

Soil Survey of Kern County, California, Southwest Part

Table 9.--California Revised Storie Index--Continued

Map symbol and soil name	Storie index rating	Storie grade
430: Littlesignal-----	54	Grade three (fair)
Cochora-----	27	Grade four (poor)
431: Littlesignal-----	39	Grade four (poor)
Cochora-----	20	Grade five (very poor)
432: Littlesignal-----	30	Grade four (poor)
Badlands.		
Cochora-----	18	Grade five (very poor)
440: Elkhills-----	61	Grade two (good)
Pyxo-----	39	Grade four (poor)
441: Sodic Haplocambids, thick-----	47	Grade three (fair)
442: Elkhills-----	82	Grade one (excellent)
443: Elkhills-----	52	Grade three (fair)
Badlands.		
444: Elkhills-----	73	Grade two (good)
445: Sodic Haplocambids, thick-----	32	Grade four (poor)
Elkhills-----	52	Grade three (fair)
451: Beam-----	17	Grade five (very poor)
Panoza-----	27	Grade four (poor)
Hillbrick-----	20	Grade five (very poor)
460: Geghus-----	81	Grade one (excellent)
Tecuya-----	80	Grade two (good)
461: Geghus-----	62	Grade two (good)
Tecuya-----	51	Grade three (fair)
462: Geghus-----	38	Grade four (poor)
Xeric Torriorthents, very gravelly-----	15	Grade five (very poor)

Soil Survey of Kern County, California, Southwest Part

Table 9.--California Revised Storie Index--Continued

Map symbol and soil name	Storie index rating	Storie grade
470:		
Pyxo-----	56	Grade three (fair)
Cochora-----	27	Grade four (poor)
471:		
Pyxo-----	31	Grade four (poor)
Cochora-----	27	Grade four (poor)
Badlands.		
472:		
Pyxo-----	52	Grade three (fair)
Kimberlina-----	86	Grade one (excellent)
Cochora-----	31	Grade four (poor)
480:		
Pyxo, dry-----	33	Grade four (poor)
Elkhills-----	52	Grade three (fair)
490:		
Padres-----	76	Grade two (good)
500:		
Bitcreek-----	83	Grade one (excellent)
510:		
Beam-----	13	Grade five (very poor)
Panoza-----	18	Grade five (very poor)
Hillbrick-----	14	Grade five (very poor)
511:		
Beam-----	27	Grade four (poor)
Panoza-----	37	Grade four (poor)
Hillbrick-----	28	Grade four (poor)
515:		
Zonap-----	23	Grade four (poor)
Badlands.		
Beam-----	16	Grade five (very poor)
516:		
Zonap-----	41	Grade three (fair)
Beam-----	28	Grade four (poor)
530:		
Tehachapi-----	94	Grade one (excellent)
531:		
Tehachapi-----	56	Grade three (fair)

Soil Survey of Kern County, California, Southwest Part

Table 9.--California Revised Storie Index--Continued

Map symbol and soil name	Storie index rating	Storie grade
540: Xeric Torriorthents----- Badlands.	19	Grade five (very poor)
550: Elkhills----- Welpout-----	75 24	Grade two (good) Grade four (poor)
560: Laval----- Pleitito-----	63 63	Grade two (good) Grade two (good)
561: Laval----- Pleitito-----	61 59	Grade two (good) Grade three (fair)
570: Hillbrick----- Rock outcrop.	24	Grade four (poor)
571: Hillbrick----- Rock outcrop.	14	Grade five (very poor)
580: Reward----- Hillbrick-----	42 26	Grade three (fair) Grade four (poor)
581: Reward-----	30	Grade four (poor)
583: Bellyspring----- Panoza-----	61 42	Grade two (good) Grade three (fair)
584: Bellyspring----- Panoza-----	55 37	Grade three (fair) Grade four (poor)
585: Bellyspring----- Panoza-----	39 27	Grade four (poor) Grade four (poor)
586: Panoza----- Beam-----	37 27	Grade four (poor) Grade four (poor)
587: Panoza----- Beam-----	27 19	Grade four (poor) Grade five (very poor)

Soil Survey of Kern County, California, Southwest Part

Table 9.--California Revised Storie Index--Continued

Map symbol and soil name	Storie index rating	Storie grade
588:		
Panoza-----	18	Grade five (very poor)
Beam-----	13	Grade five (very poor)
590:		
Gorman-----	52	Grade three (fair)
Typic Xerorthents, mesic-----	25	Grade four (poor)
Xerorthents, shallow-----	10	Grade six (nonagricultural)
591:		
Geghus-----	46	Grade three (fair)
Selby-----	11	Grade five (very poor)
600:		
Positas-----	92	Grade one (excellent)
Bitcreek-----	80	Grade two (good)
610:		
Balcom-----	25	Grade four (poor)
Rock outcrop.		
620:		
Typic Xerorthents, mesic-----	23	Grade four (poor)
Haploxerepts-----	23	Grade four (poor)
Xerorthents, sandy-----	20	Grade five (very poor)
640:		
Bitcreek-----	59	Grade three (fair)
Dibble-----	34	Grade four (poor)
Eaglerest-----	25	Grade four (poor)
650:		
Lithic Argixerolls-----	8	Grade six (nonagricultural)
Lithic Xerorthents, mesic-----	4	Grade six (nonagricultural)
Rock outcrop.		
660:		
Elkhills-----	72	Grade two (good)
Legray-----	51	Grade three (fair)
661:		
Elkhills-----	52	Grade three (fair)
Legray-----	37	Grade four (poor)

Soil Survey of Kern County, California, Southwest Part

Table 9.--California Revised Storie Index--Continued

Map symbol and soil name	Storie index rating	Storie grade
670: Harrisranch----- Rock outcrop.	42	Grade three (fair)
680: Milham-----	83	Grade one (excellent)
690: Dibble----- Geghus-----	19 40	Grade five (very poor) Grade four (poor)
700: Xerolls, loamy-skeletal----- Los Gatos-----	44 26	Grade three (fair) Grade four (poor)
720: Friant----- Geghus----- Lithic Xerorthents, thermic-----	7 67 5	Grade six (nonagricultural) Grade two (good) Grade six (nonagricultural)
724: Elkhills-----	46	Grade three (fair)
725: Sodic Haplocambids, thick-----	51	Grade three (fair)
726: Sodic Haplocambids, thick-----	45	Grade three (fair)
727: Sodic Haplocambids, thick-----	32	Grade four (poor)
728: Torriorthents, very thin-----	5	Grade six (nonagricultural)
729: Sodic Haplocambids, thick----- Torriorthents, thin----- Torriorthents, very thin, eroded-----	29 7 5	Grade four (poor) Grade six (nonagricultural) Grade six (nonagricultural)
730: Haplocambids, thick----- Elkhills-----	34 81	Grade four (poor) Grade one (excellent)
731: Haplocambids, thick----- Elkhills-----	30 72	Grade four (poor) Grade two (good)

Soil Survey of Kern County, California, Southwest Part

Table 9.--California Revised Storie Index--Continued

Map symbol and soil name	Storie index rating	Storie grade
732:		
Elkhills-----	52	Grade three (fair)
Haplocambids, thick-----	22	Grade four (poor)
733:		
Sodic Haplocambids, thick-----	45	Grade three (fair)
Torriorthents, thin-----	11	Grade five (very poor)
734:		
Sodic Haplocambids, thick-----	38	Grade four (poor)
Torriorthents, very thin, eroded-----	6	Grade six (nonagricultural)
Elkhills-----	61	Grade two (good)
735:		
Sodic Haplocambids, thick-----	29	Grade four (poor)
Elkhills-----	46	Grade three (fair)
Torriorthents, thin-----	7	Grade six (nonagricultural)
750:		
Ballinger-----	11	Grade five (very poor)
760:		
Ballinger-----	6	Grade six (nonagricultural)
780:		
Stutzville-----	6	Grade six (nonagricultural)
850:		
Xerofluvents-----	31	Grade four (poor)
860:		
Hawk-----	43	Grade three (fair)
870:		
Frazier-----	9	Grade six (nonagricultural)
880:		
Chuchupate-----	14	Grade five (very poor)
890:		
Gorman-----	61	Grade two (good)
919:		
Zonap-----	35	Grade four (poor)
Harrisranch-----	62	Grade two (good)
Beam-----	23	Grade four (poor)

Soil Survey of Kern County, California, Southwest Part

Table 9.--California Revised Storie Index--Continued

Map symbol and soil name	Storie index rating	Storie grade
930:		
Bitcreek-----	61	Grade two (good)
Shimmon-----	31	Grade four (poor)
Balhud-----	18	Grade five (very poor)
932:		
Bitcreek-----	41	Grade three (fair)
Shimmon-----	21	Grade four (poor)
Balhud-----	12	Grade five (very poor)
940:		
Bitcreek-----	81	Grade one (excellent)
950:		
Pleito-----	62	Grade two (good)
Ballinger-----	12	Grade five (very poor)
Balhud-----	18	Grade five (very poor)
951:		
Bitcreek-----	73	Grade two (good)
Balhud-----	21	Grade four (poor)
Ballinger-----	13	Grade five (very poor)
954:		
Typic Haploxeralfs, fine-----	26	Grade four (poor)
Haploxerolls, coarse-loamy-----	27	Grade four (poor)
955:		
Calcic Haploxerepts-----	35	Grade four (poor)
Xerorthents, shallow-----	12	Grade five (very poor)
Badlands.		
970:		
Harrisranch-----	66	Grade two (good)
Bitcreek-----	61	Grade two (good)
980:		
Area not surveyed, access denied.		
W:		
Water.		

Table 10a.--Recreational Development (Part 1)

[The information in this table is based on interpretations developed by the Pacific Southwest MLRA Office. The information indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The rating is based on the limitation with the highest value. Only the three highest-value limitations are listed. There may be more limitations. Fine-earth fractions and coarse fragments are reported on the basis of weight. An explanation of the rating criteria and of the abbreviations used in describing the limitations is given at the end of the table]

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
101: Bakersfield, drained-----	80	Limitations Flooding >= rare	1.00	No limitations		No limitations	
102: Bakersfield, partially drained-----	85	Limitations Flooding >= rare SAR >12	1.00 1.00	Limitations Surface SAR 8-13	0.32	Limitations Surface SAR 8-13	0.32
110: Buttonwillow, partially drained-----	75	Limitations Flooding >= rare Surface clay >= 40% Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Surface clay >= 40% Permeability .06-.6"/hr	1.00 0.46	Limitations Surface clay >= 40% Permeability .06-.6"/hr	1.00 0.46
120: Granoso-----	85	Limitations Flooding >= rare Surface sand fractions 70-90% by wt.	1.00 0.60	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations Surface sand fractions 70-90% by wt.	0.60
121: Granoso-----	85	Limitations Flooding >= rare Surface sand fractions 70-90% by wt.	1.00 0.60	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations Surface sand fractions 70-90% by wt. Slopes 2-6%	0.60 0.50
122: Granoso, loamy substratum-----	85	Limitations Flooding >= rare Surface sand fractions 70-90% by wt.	1.00 0.60	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations Surface sand fractions 70-90% by wt.	0.60
123: Granoso-----	85	Limitations Flooding >= rare	1.00	No limitations		No limitations	

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
124: Granoso-----	90	Limitations Flooding >= rare Surface sand fractions 70-90% by wt.	1.00 0.60	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations Surface fragments (<3") 10-25% Surface sand fractions 70-90% by wt.	0.92 0.60
130: Cerini-----	85	Limitations Flooding >= rare	1.00	No limitations		No limitations	
131: Calflax-----	85	Limitations Flooding >= rare SAR >12 Surface EC 4-6 mmhos/cm	1.00 1.00 0.01	Limitations Surface EC 4-8 mmhos/cm	0.01	Limitations Surface EC 4-8 mmhos/cm	0.01
132: Cerini-----	85	Limitations Flooding >= rare Dusty	1.00 0.50	Limitations Dusty	0.50	Limitations Dusty	0.50
133: Calflax-----	85	Limitations Flooding >= rare SAR >12 Dusty	1.00 1.00 0.50	Limitations Dusty Surface EC 4-8 mmhos/cm	0.50 0.01	Limitations Dusty Surface EC 4-8 mmhos/cm	0.50 0.01
134: Cerini-----	85	Limitations Flooding >= rare Dusty	1.00 0.50	Limitations Dusty	0.50	Limitations Dusty Slopes 2-6%	0.50 0.26
140: Copus silty clay, partially drained-----	85	Limitations Flooding >= rare Surface clay >= 40% Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Surface clay >= 40% Permeability .06-.6"/hr Surface EC 4-8 mmhos/cm	1.00 0.46 0.13	Limitations Surface clay >= 40% Permeability .06-.6"/hr Surface EC 4-8 mmhos/cm	1.00 0.46 0.13
141: Copus clay, partially drained-----	95	Limitations Flooding >= rare Surface clay >= 40% Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Surface clay >= 40% Permeability .06-.6"/hr Surface EC 4-8 mmhos/cm	1.00 0.46 0.13	Limitations Surface clay >= 40% Permeability .06-.6"/hr Surface EC 4-8 mmhos/cm	1.00 0.46 0.13

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
150: Excelsior-----	85	Limitations Flooding >= rare	1.00	No limitations		No limitations	
151: Excelsior, saline-sodic-	85	Limitations Flooding >= rare Surface EC 4-6 mmhos/cm	1.00 0.01	Limitations Surface EC 4-8 mmhos/cm	0.01	Limitations Surface EC 4-8 mmhos/cm	0.01
152: Excelsior-----	85	Limitations Flooding >= rare Dusty	1.00 0.50	Limitations Dusty	0.50	Limitations Dusty	0.50
153: Tupman-----	80	Limitations Flooding >= rare Fragments (<3") 25-50%	1.00 0.92	Limitations Fragments (<3") 25-50%	0.92	Limitations Surface fragments (<3") >25%	1.00
154: Tupman-----	70	Limitations Flooding >= rare Fragments (<3") 25-50%	1.00 0.92	Limitations Fragments (<3") 25-50%	0.92	Limitations Surface fragments (<3") >25% Slopes 2-6%	1.00 0.26
Urban land-----	20	Not rated		Not rated		Not rated	
160: Fages-----	80	Limitations Flooding >= rare SAR >12 Surface clay >= 40%	1.00 1.00 1.00	Limitations Surface clay >= 40% Surface EC >8 mmhos/cm Surface SAR >13	1.00 1.00 1.00	Limitations Surface clay >= 40% Surface EC >8 mmhos/cm Surface SAR >13	1.00 1.00 1.00
179: Padres-----	70	No limitations		No limitations		Limitations Surface fragments (<3") 10-25%	0.27
180: Garces-----	85	Limitations Flooding >= rare SAR >12 Dusty	1.00 1.00 0.50	Limitations Dusty Surface EC 4-8 mmhos/cm	0.50 0.13	Limitations Dusty Surface EC 4-8 mmhos/cm	0.50 0.13
190: Guijarral-----	85	Limitations Flooding >= rare	1.00	No limitations		No limitations	

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
191: Guijarral-----	85	Limitations Flooding >= rare	1.00	No limitations		Limitations Slopes 2-6%	0.50
192: Guijarral-----	45	Limitations Flooding >= rare	1.00	No limitations		Limitations Slopes 2-6%	0.38
Klipstein-----	45	Limitations Flooding >= rare Fragments >10" .1-3%	1.00 0.76	Limitations Fragments >10" .1-3%	0.76	Limitations Fragments >10" .1-3% Slopes 2-6% Surface fragments (<3") 10-25%	0.76 0.26 0.26
193: Guijarral-----	85	Limitations Fragments (<3") 25-50%	0.08	Limitations Fragments (<3") 25-50%	0.08	Limitations Surface fragments (<3") >25% Slopes 2-6%	1.00 0.26
195: Guijarral, extremely gravelly substratum----	60	Limitations Fragments (<3") 25-50%	0.08	Limitations Fragments (<3") 25-50%	0.08	Limitations Surface fragments (<3") >25% Slopes >6%	1.00 1.00
Guijarral-----	30	Limitations Fragments (<3") 25-50%	0.08	Limitations Fragments (<3") 25-50%	0.08	Limitations Surface fragments (<3") >25% Slopes >6%	1.00 1.00
197: Klipstein-----	60	Limitations Flooding >= rare Fragments >10" >3% Slopes 8-15%	1.00 1.00 0.16	Limitations Fragments >10" >3% Slopes 8-15%	1.00 0.16	Limitations Fragments >10" >3% Slopes >6% Surface fragments (<3") 10-25%	1.00 1.00 0.26
Guijarral-----	25	Limitations Flooding >= rare Slopes 8-15% Fragments (<3") 25-50%	1.00 0.16 0.08	Limitations Slopes 8-15% Fragments (<3") 25-50%	0.16 0.08	Limitations Surface fragments (<3") >25% Slopes >6%	1.00 1.00

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
200: Hesperia-----	85	Limitations Flooding >= rare Surface sand fractions 70-90% by wt.	1.00 0.76	Limitations Surface sand fractions 70-90% by wt.	0.76	Limitations Surface sand fractions 70-90% by wt.	0.76
201: Hesperia-----	85	Limitations Flooding >= rare	1.00	No limitations		No limitations	
210: Kimberlina-----	85	Limitations Flooding >= rare Surface sand fractions 70-90% by wt.	1.00 0.01	Limitations Surface sand fractions 70-90% by wt.	0.01	Limitations Surface fragments (<3") 10-25% Surface sand fractions 70-90% by wt.	0.06 0.01
211: Kimberlina-----	80	Limitations Flooding >= rare	1.00	No limitations		Limitations Slopes 2-6%	0.26
212: Kimberlina, saline-sodic	85	Limitations Flooding >= rare SAR >12 Surface EC 6-8 mmhos/cm	1.00 1.00 0.50	Limitations Surface EC 4-8 mmhos/cm Surface SAR 8-13 Surface sand fractions 70-90% by wt.	0.50 0.32 0.01	Limitations Surface EC 4-8 mmhos/cm Surface SAR 8-13 Surface fragments (<3") 10-25%	0.50 0.32 0.06
214: Kimberlina-----	85	Limitations Flooding >= rare Fragments (<3") 25-50%	1.00 0.08	Limitations Fragments (<3") 25-50%	0.08	Limitations Surface fragments (<3") >25%	1.00
215: Kimberlina-----	85	Limitations Fragments (<3") 25-50%	0.18	Limitations Fragments (<3") 25-50%	0.18	Limitations Surface fragments (<3") >25% Slopes >6%	1.00 1.00
216: Kimberlina, occasionally flooded-----	50	Limitations Flooding >= rare	1.00	No limitations		Limitations Occasional flooding Slopes 2-6%	0.50 0.26

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
216: Granoso, occasionally flooded-----	35	Limitations Flooding >= rare Surface sand fractions 70-90% by wt.	1.00 0.60	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations Surface sand fractions 70-90% by wt. Occasional flooding Slopes 2-6%	0.60 0.50 0.02
217: Kimberlina-----	50	No limitations		No limitations		Limitations Slopes 2-6%	0.26
Urban land-----	35	Not rated		Not rated		Not rated	
219: Xerorthents-----	50	Limitations Slopes >15% Fragments (<3") >50% Dusty	1.00 1.00 0.50	Limitations Slopes >15% Fragments (<3") >50% Dusty	1.00 1.00 0.50	Limitations Slopes >6% Surface fragments (<3") >25% Bedrock 20-40"; slope >2%	1.00 1.00 0.50
Badlands-----	35	Not rated		Not rated		Not rated	
220: Lokern, drained-----	85	Limitations Flooding >= rare Surface clay >= 40% Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Surface clay >= 40% Permeability .06-.6"/hr	1.00 0.46	Limitations Surface clay >= 40% Permeability .06-.6"/hr	1.00 0.46
221: Lokern, partially drained-----	85	Limitations Flooding >= rare SAR >12 Surface clay >= 40%	1.00 1.00 1.00	Limitations Surface SAR >13 Surface clay >= 40% Surface EC 4-8 mmhos/cm	1.00 1.00 0.50	Limitations Surface SAR >13 Surface clay >= 40% Surface EC 4-8 mmhos/cm	1.00 1.00 0.50
230: Milagro-----	85	Limitations Flooding >= rare Surface sand fractions 70-90% by wt.	1.00 0.86	Limitations Surface sand fractions 70-90% by wt.	0.86	Limitations Surface sand fractions 70-90% by wt.	0.86
231: Milagro-----	85	Limitations Flooding >= rare	1.00	No limitations		No limitations	

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
240: Millox, partially drained-----	85	Limitations Flooding >= rare SAR >12 Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Surface SAR >13 Permeability .06-.6"/hr	1.00 0.46	Limitations Surface SAR >13 Permeability .06-.6"/hr	1.00 0.46
241: Millox, partially drained, nonsaline----	85	Limitations Flooding >= rare SAR >12 Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Permeability .06-.6"/hr	0.46	Limitations Permeability .06-.6"/hr	0.46
242: Millox, partially drained-----	55	Limitations Flooding >= rare SAR >12 Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Surface SAR >13 Permeability .06-.6"/hr	1.00 0.46	Limitations Surface SAR >13 Permeability .06-.6"/hr	1.00 0.46
Tennco-----	35	Limitations Surface EC >8 mmhos/cm Flooding >= rare SAR >12	1.00 1.00 1.00	Limitations Surface EC >8 mmhos/cm Surface SAR >13 Dusty	1.00 1.00 0.50	Limitations Surface EC >8 mmhos/cm Surface SAR >13 Dusty	1.00 1.00 0.50
243: Millox, partially drained-----	50	Limitations Flooding >= rare SAR >12 Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Permeability .06-.6"/hr	0.46	Limitations Permeability .06-.6"/hr	0.46
Zalvidea, partially drained-----	35	Limitations Flooding >= rare Surface EC 6-8 mmhos/cm	1.00 0.13	Limitations Surface EC 4-8 mmhos/cm	0.13	Limitations Surface EC 4-8 mmhos/cm	0.13
246: Whitewolf-----	85	Limitations Flooding >= rare	1.00	No limitations		Limitations Surface fragments (<3") 10-25%	0.06
250: Oldriver-----	85	Limitations Flooding >= rare Dusty	1.00 0.50	Limitations Dusty	0.50	Limitations Dusty	0.50

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
251: Oldriver, partially drained, sodic-----	85	Limitations Flooding >= rare SAR >12 Dusty	1.00 1.00 0.50	Limitations Dusty Surface SAR 8-13	0.50 0.32	Limitations Dusty Surface SAR 8-13	0.50 0.32
260: Panoche-----	85	Limitations Flooding >= rare Dusty	1.00 0.50	Limitations Dusty	0.50	Limitations Dusty	0.50
270: Pits-----	50	Not rated		Not rated		Not rated	
Dumps-----	50	Not rated		Not rated		Not rated	
280: Premier-----	85	Limitations Flooding >= rare	1.00	No limitations		No limitations	
281: Premier-----	85	No limitations		No limitations		Limitations Slopes 2-6%	0.50
290: Riverwash-----	85	Not rated		Not rated		Not rated	
300: Tennco-----	85	Limitations Surface EC >8 mmhos/cm Flooding >= rare SAR >12	1.00 1.00 1.00	Limitations Surface EC >8 mmhos/cm Surface SAR >13	1.00 1.00	Limitations Surface EC >8 mmhos/cm Surface SAR >13	1.00 1.00
310: Vineland, drained-----	85	Limitations Flooding >= rare Surface sand fractions 70-90% by wt.	1.00 0.52	Limitations Surface sand fractions 70-90% by wt.	0.52	Limitations Surface sand fractions 70-90% by wt.	0.52
312: Vineland, drained-----	50	Limitations Flooding >= rare Surface sand fractions 70-90% by wt.	1.00 0.52	Limitations Surface sand fractions 70-90% by wt.	0.52	Limitations Surface sand fractions 70-90% by wt.	0.52

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
312: Bakersfield, drained-----	40	Limitations Flooding >= rare	1.00	No limitations		No limitations	
320: Wasco-----	85	Limitations Flooding >= rare	1.00	No limitations		No limitations	
330: Cuyama-----	85	Limitations Flooding >= rare	1.00	No limitations		Limitations Slopes 2-6% Surface fragments (<3") 10-25% Fragments >3" 5-30%	0.26 0.23 0.01
331: Cuyama-----	85	Limitations Slopes 8-15%	0.16	Limitations Slopes 8-15%	0.16	Limitations Slopes >6% Surface fragments (<3") 10-25% Fragments >3" 5-30%	1.00 0.23 0.01
332: Cuyama-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25% Fragments >3" 5-30%	1.00 0.23 0.01
340: Weedpatch-----	85	Limitations Flooding >= rare Surface EC 6-8 mmhos/cm	1.00 0.15	Limitations Surface EC 4-8 mmhos/cm	0.15	Limitations Surface EC 4-8 mmhos/cm	0.15
350: Posochanet, saline-sodic	85	Limitations Flooding >= rare SAR >12 Surface EC >8 mmhos/cm	1.00 1.00 1.00	Limitations Surface EC >8 mmhos/cm Surface SAR >13 Dusty	1.00 1.00 0.50	Limitations Surface EC >8 mmhos/cm Surface SAR >13 Dusty	1.00 1.00 0.50
351: Posochanet, saline-sodic	75	Limitations Flooding >= rare SAR >12 Surface EC >8 mmhos/cm	1.00 1.00 1.00	Limitations Surface EC >8 mmhos/cm Surface SAR >13 Permeability .06-.6"/hr	1.00 1.00 0.96	Limitations Surface EC >8 mmhos/cm Surface SAR >13 Permeability .06-.6"/hr	1.00 1.00 0.96

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
352: Posochanet-----	70	Limitations		Limitations		Limitations	
		Flooding >= rare	1.00	Surface EC >8 mmhos/cm	1.00	Surface EC >8 mmhos/cm	1.00
		SAR >12	1.00	Surface SAR >13	1.00	Surface SAR >13	1.00
		Surface EC >8 mmhos/cm	1.00	Permeability .06-.6"/hr	0.96	Permeability .06-.6"/hr	0.96
Posochanet, partially reclaimed-----	20	Limitations		Limitations		Limitations	
		Flooding >= rare	1.00	Surface EC >8 mmhos/cm	1.00	Surface EC >8 mmhos/cm	1.00
		Surface EC >8 mmhos/cm	1.00	Permeability .06-.6"/hr	0.96	Permeability .06-.6"/hr	0.96
		Permeability .06-.6"/hr	0.96	Dusty	0.50	Dusty	0.50
360: Wheelridge-----	85	Limitations		Limitations		Limitations	
		Flooding >= rare	1.00	Surface sand fractions	0.36	Surface fragments (<3")	1.00
		Surface sand fractions	0.36	70-90% by wt.		>25%	
		70-90% by wt.		Fragments (<3") 25-50%	0.05	Surface sand fractions	0.36
		Fragments (<3") 25-50%	0.05			70-90% by wt.	
370: Whitewolf-----	85	Limitations		Limitations		Limitations	
		Flooding >= rare	1.00	Surface sand fractions	0.79	Surface sand fractions	0.79
		Surface sand fractions	0.79	70-90% by wt.		70-90% by wt.	
		70-90% by wt.				Surface fragments (<3")	0.78
						10-25%	
371: Whitewolf-----	85	Limitations		Limitations		Limitations	
		Flooding >= rare	1.00	Surface sand fractions	0.79	Surface sand fractions	0.79
		Surface sand fractions	0.79	70-90% by wt.		70-90% by wt.	
		70-90% by wt.				Surface fragments (<3")	0.78
						10-25%	
						Slopes 2-6%	0.26
380: Zalvidea, partially drained-----	85	Limitations		Limitations		Limitations	
		Flooding >= rare	1.00	Surface EC 4-8 mmhos/cm	0.13	Surface EC 4-8 mmhos/cm	0.13
		Surface EC 6-8 mmhos/cm	0.13				
381: Zalvidea, partially drained-----	85	Limitations		Limitations		Limitations	
		Flooding >= rare	1.00	Surface EC 4-8 mmhos/cm	0.13	Surface EC 4-8 mmhos/cm	0.13
		Surface EC 6-8 mmhos/cm	0.13				

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
389: Xerofluvents-----	30	Limitations Flooding >= rare Fragments (<3") 25-50%	1.00 0.80	Limitations Fragments (<3") 25-50%	0.80	Limitations Surface fragments (<3") >25% Slopes 2-6% Occasional flooding	1.00 1.00 0.74 0.50
Haploxerepts-----	30	Limitations Flooding >= rare Fragments (<3") 25-50%	1.00 0.80	Limitations Fragments (<3") 25-50%	0.80	Limitations Surface fragments (<3") >25% Slopes 2-6%	1.00 1.00 0.74
Riverwash-----	15	Not rated		Not rated		Not rated	
390: Pleito-----	85	Limitations Flooding >= rare	1.00	No limitations		Limitations Surface fragments (<3") 10-25%	0.56
391: Pleito-----	80	Limitations Flooding >= rare	1.00	No limitations		Limitations Surface fragments (<3") 10-25% Slopes 2-6%	0.56 0.26
392: Pleito-----	85	No limitations		No limitations		Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.56
393: Pleito-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.56
394: Pleito-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.56

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
394: Xeric Torriorthents, very gravelly-----	40	Limitations Slopes >15% Fragments (<3") 25-50%	1.00 0.17	Limitations Slopes >15% Fragments (<3") 25-50%	1.00 0.17	Limitations Slopes >6% Surface fragments (<3") >25% Fragments >3" 5-30%	1.00 1.00 0.84
395: Pleito-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.56
Emidio-----	20	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Loslobos-----	15	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.32
396: Pleito-----	60	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.56
Loslobos-----	25	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.32
398: Calcic Haploxerepts-----	30	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
Calcic Pachic Argixerolls, fine-----	25	Limitations Slopes >15% Permeability .06-.6"/hr	1.00 0.46	Limitations Slopes >15% Permeability .06-.6"/hr	1.00 0.46	Limitations Slopes >6% Permeability .06-.6"/hr	1.00 0.46
Xerorthents, shallow----	20	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >6% Bedrock depth <20"	1.00 1.00

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
400: Loslobos-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.32
Xeric Torriorthents, very gravelly-----	25	Limitations Slopes >15% Fragments (<3") 25-50%	1.00 0.17	Limitations Slopes >15% Fragments (<3") 25-50%	1.00 0.17	Limitations Slopes >6% Surface fragments (<3") >25% Fragments >3" 5-30%	1.00 1.00 0.84
Badlands-----	20	Not rated		Not rated		Not rated	
401: Loslobos-----	85	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty Surface fragments (<3") 10-25%	1.00 0.50 0.32
402: Loslobos-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.32
Walong-----	30	Limitations Slopes >15% Fragments >10" >3% Fragments >3" 25-75%	1.00 1.00 0.58	Limitations Slopes >15% Fragments >10" >3% Fragments >3" 25-75%	1.00 1.00 0.58	Limitations Slopes >6% Fragments >3" >30% Fragments >10" >3%	1.00 1.00 1.00
403: Loslobos-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.32
Calleguas-----	35	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >6% Bedrock depth <20"	1.00 1.00

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
404: Loslobos, moist-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.32
430: Littlesignal-----	45	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Cochora-----	40	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50
431: Littlesignal-----	50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Cochora-----	35	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50
432: Littlesignal-----	45	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Badlands-----	25	Not rated		Not rated		Not rated	
Cochora-----	20	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50
440: Elkhills-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
Pyxo-----	35	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty Surface fragments (<3") 10-25%	1.00 0.50 0.32

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
441: Sodic Haplocambids, thick-----	60	Limitations SAR >12 Slopes >15% Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Slopes >15% Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32	Limitations Slopes >6% Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32
442: Elkhills-----	80	Limitations Slopes 8-15%	0.16	Limitations Slopes 8-15%	0.16	Limitations Slopes >6%	1.00
443: Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
Badlands-----	40	Not rated		Not rated		Not rated	
444: Elkhills-----	90	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
445: Sodic Haplocambids, thick-----	45	Limitations Slopes >15% SAR >12 Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Slopes >15% Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32	Limitations Slopes >6% Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32
Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
451: Beam-----	35	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >6% Bedrock depth <20"	1.00 1.00
Panoza-----	30	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Hillbrick-----	15	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
460: Geghus-----	50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Tecuya-----	30	Limitations Fragments >10" >3% Slopes 8-15% Dusty	1.00 0.63 0.50	Limitations Fragments >10" >3% Slopes 8-15% Dusty	1.00 0.63 0.50	Limitations Slopes >6% Fragments >10" >3% Dusty	1.00 1.00 0.50
461: Geghus-----	50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Tecuya-----	35	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty Surface fragments (<3") 10-25%	1.00 0.50 10.09
462: Geghus-----	55	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Xeric Torriorthents, very gravelly-----	30	Limitations Slopes >15% Fragments (<3") 25-50%	1.00 0.17	Limitations Slopes >15% Fragments (<3") 25-50%	1.00 0.17	Limitations Slopes >6% Surface fragments (<3") >25% Fragments >3" 5-30%	1.00 1.00 0.84
470: Pyxo-----	55	Limitations Slopes >15% Dusty Permeability .06-.6"/hr	1.00 0.50 0.50	Limitations Slopes >15% Dusty Permeability .06-.6"/hr	1.00 0.50 0.50	Limitations Slopes >6% Dusty Permeability .06-.6"/hr	1.00 0.50 0.50
Cochora-----	30	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
471: Pyxo-----	40	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty Surface fragments (<3") 10-25%	1.00 0.50 0.32
Cochora-----	25	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50
Badlands-----	15	Not rated		Not rated		Not rated	
472: Pyxo-----	30	Limitations Dusty Slopes 8-15%	0.50 0.16	Limitations Dusty Slopes 8-15%	0.50 0.16	Limitations Slopes >6% Dusty Surface fragments (<3") 10-25%	1.00 0.50 0.32
Kimberlina-----	30	Limitations Slopes 8-15%	0.16	Limitations Slopes 8-15%	0.16	Limitations Slopes >6%	1.00
Cochora-----	25	Limitations Bedrock depth <20" Dusty Slopes 8-15%	1.00 0.50 0.16	Limitations Bedrock depth <20" Dusty Slopes 8-15%	1.00 0.50 0.16	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50
480: Pyxo, dry-----	45	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty Surface fragments (<3") 10-25%	1.00 0.50 0.32
Elkhills-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
490: Padres-----	65	No limitations		No limitations		Limitations Slopes 2-6% Surface fragments (<3") 10-25%	0.98 0.27

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
500: Bitcreek-----	85	Limitations Permeability .06-.6"/hr	0.46	Limitations Permeability .06-.6"/hr	0.46	Limitations Surface fragments (<3") 10-25% Permeability .06-.6"/hr Slopes 2-6%	0.68 0.46 0.26
510: Beam-----	35	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >6% Bedrock depth <20"	1.00 1.00
Panoza-----	30	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Hillbrick-----	15	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50
511: Beam-----	35	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >6% Bedrock depth <20"	1.00 1.00
Panoza-----	30	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Hillbrick-----	15	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50
515: Zonap-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
Badlands-----	20	Not rated		Not rated		Not rated	
Beam-----	15	Limitations Slopes >15% Bedrock depth <20" Surface sand fractions 70 90% by wt.	1.00 1.00 0.01	Limitations Slopes >15% Bedrock depth <20" Surface sand fractions 70-90% by wt.	1.00 1.00 0.01	Limitations Slopes >6% Bedrock depth <20" Surface sand fractions 70-90% by wt.	1.00 1.00 0.01

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
516: Zonap-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
Beam-----	40	Limitations Slopes >15% Bedrock depth <20" Surface sand fractions 70-90% by wt.	1.00 1.00 0.01	Limitations Slopes >15% Bedrock depth <20" Surface sand fractions 70-90% by wt.	1.00 1.00 0.01	Limitations Slopes >6% Bedrock depth <20" Surface sand fractions 70-90% by wt.	1.00 1.00 0.01
530: Tehachapi-----	80	Limitations Dusty	0.50	Limitations Dusty	0.50	Limitations Slopes 2-6% Dusty	0.50 0.50
531: Tehachapi-----	85	Limitations Slopes >15% Dusty Fragments (<3") 25-50%	1.00 0.50 0.12	Limitations Slopes >15% Dusty Fragments (<3") 25-50%	1.00 0.50 0.12	Limitations Slopes >6% Surface fragments (<3") >25% Dusty	1.00 1.00 0.50
540: Xeric Torriorthents-----	50	Limitations Slopes >15% Fragments (<3") 25-50%	1.00 0.08	Limitations Slopes >15% Fragments (<3") 25-50%	1.00 0.08	Limitations Slopes >6% Surface fragments (<3") >25%	1.00 1.00
Badlands-----	25	Not rated		Not rated		Not rated	
550: Elkhills-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
Welport-----	45	Limitations Depth to pan <= 20" Slopes 8-15%	1.00 0.63	Limitations Depth to pan <= 20" Slopes 8-15%	1.00 0.63	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.32
560: Laval-----	44	Limitations Flooding >= rare	1.00	Limitations Frequent flooding	0.50	Limitations Flooding > Occasional Slopes 2-6%	1.00 0.26
Pleitito-----	44	Limitations Flooding >= rare	1.00	Limitations Frequent flooding	0.50	Limitations Flooding > Occasional Slopes 2-6%	1.00 0.26

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
561:							
Laval-----	45	Limitations Flooding >= rare	1.00	Limitations Frequent flooding	0.50	Limitations Flooding > Occasional Slopes 2-6%	1.00 0.74
Pleitito-----	45	Limitations Flooding >= rare Slopes 8-15%	1.00 0.16	Limitations Frequent flooding Slopes 8-15%	0.50 0.16	Limitations Flooding > Occasional Slopes >6%	1.00 1.00
570:							
Hillbrick-----	65	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
571:							
Hillbrick-----	65	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
580:							
Reward-----	45	Limitations Slopes >15% Dusty Fragments (<3") 25-50%	1.00 0.50 0.26	Limitations Slopes >15% Dusty Fragments (<3") 25-50%	1.00 0.50 0.26	Limitations Slopes >6% Surface fragments (<3") >25% Dusty	1.00 1.00 0.50
Hillbrick-----	45	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >6% Bedrock depth <20" Surface fragments (<3") 10-25%	1.00 1.00 0.08
581:							
Reward-----	85	Limitations Slopes >15% Dusty Fragments (<3") 25-50%	1.00 0.50 0.26	Limitations Slopes >15% Dusty Fragments (<3") 25-50%	1.00 0.50 0.26	Limitations Slopes >6% Surface fragments (<3") >25% Dusty	1.00 1.00 0.50

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Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
583: Bellyspring-----	35	Limitations Slopes 8-15%	0.63	Limitations Slopes 8-15%	0.63	Limitations Slopes >6%	1.00
Panoza-----	25	Limitations Slopes 8-15% Dusty	0.63 0.50	Limitations Slopes 8-15% Dusty	0.63 0.50	Limitations Slopes >6% Dusty	1.00 0.50
584: Bellyspring-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
Panoza-----	30	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
585: Bellyspring-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
Panoza-----	30	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
586: Panoza-----	40	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Beam-----	30	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >6% Bedrock depth <20"	1.00 1.00
587: Panoza-----	40	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Beam-----	30	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >6% Bedrock depth <20"	1.00 1.00
588: Panoza-----	40	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
588: Beam-----	30	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >15% Bedrock depth <20"	1.00 1.00	Limitations Slopes >6% Bedrock depth <20"	1.00 1.00
590: Gorman-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.32
Typic Xerorthents, mesic	30	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty Surface fragments (<3") 10-25%	1.00 0.50 0.32
Xerorthents, shallow----	20	Limitations Slopes >15% Bedrock depth <20" Permeability .06-.6"/hr	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Permeability .06-.6"/hr	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Permeability .06-.6"/hr	1.00 1.00 0.50
591: Geghus-----	40	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Selby-----	40	Limitations Slopes >15% Dusty Fragments >3" 25-75%	1.00 0.50 0.26	Limitations Slopes >15% Dusty Fragments >3" 25-75%	1.00 0.50 0.26	Limitations Slopes >6% Fragments >3" >30% Surface fragments (<3") 10-25%	1.00 1.00 0.98
600: Positas-----	45	Limitations Dusty Permeability .06-.6"/hr	0.50 0.46	Limitations Dusty Permeability .06-.6"/hr	0.50 0.46	Limitations Slopes 2-6% Dusty Permeability .06-.6"/hr	0.98 0.50 0.46
Bitcreek-----	35	Limitations Permeability .06-.6"/hr	0.46	Limitations Permeability .06-.6"/hr	0.46	Limitations Slopes 2-6% Surface fragments (<3") 10-25% Permeability .06-.6"/hr	0.98 0.68 0.46

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
610: Balcom-----	55	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Rock outcrop-----	20	Not rated		Not rated		Not rated	
620: Typic Xerorthents, mesic	40	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty Surface fragments (<3") 10-25%	1.00 0.50 0.32
Haploxerepts-----	40	Limitations Slopes >15% Fragments (<3") 25-50%	1.00 0.80	Limitations Slopes >15% Fragments (<3") 25-50%	1.00 0.80	Limitations Slopes >6% Surface fragments (<3") >25%	1.00 1.00
Xerorthents, sandy-----	18	Limitations Slopes >15% Surface sand fractions 70-90% by wt. Fragments (<3") 25-50%	1.00 0.81 0.08	Limitations Slopes >15% Surface sand fractions 70-90% by wt. Fragments (<3") 25-50%	1.00 0.81 0.08	Limitations Slopes >6% Surface fragments (<3") >25% Surface sand fractions 70-90% by wt.	1.00 1.00 0.81
640: Bitcreek-----	40	Limitations Slopes >15% Permeability .06-.6"/hr	1.00 0.46	Limitations Slopes >15% Permeability .06-.6"/hr	1.00 0.46	Limitations Slopes >6% Surface fragments (<3") 10-25% Permeability .06-.6"/hr	1.00 0.68 0.46
Dibble-----	30	Limitations Slopes >15% Dusty Permeability .06-.6"/hr	1.00 0.50 0.46	Limitations Slopes >15% Dusty Permeability .06-.6"/hr	1.00 0.50 0.46	Limitations Slopes >6% Surface fragments (<3") >25% Dusty	1.00 1.00 0.50
Eaglerest-----	15	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
650:							
Lithic Argixerolls-----	50	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Bedrock depth <20"	1.00	Bedrock depth <20"	1.00	Bedrock depth <20"	1.00
		Fragments (<3") 25-50%	0.01	Fragments (<3") 25-50%	0.01	Surface fragments (<3") >25%	1.00
Lithic Xerorthents, mesic-----	25	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Bedrock depth <20"	1.00	Bedrock depth <20"	1.00	Fragments >3" >30%	1.00
		Fragments >10" >3%	1.00	Fragments >10" >3%	1.00	Bedrock depth <20"	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
660:							
Elkhills-----	70	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
Legray-----	20	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
						Surface fragments (<3") 10-25%	0.28
						Fragments >3" 5-30%	0.03
661:							
Elkhills-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
Legray-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
						Surface fragments (<3") 10-25%	0.28
						Fragments >3" 5-30%	0.03
670:							
Harrisranch-----	60	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
680:							
Milham-----	90	No limitations		No limitations		Limitations	
						Surface fragments (<3") 10-25%	0.32
						Slopes 2-6%	0.26

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Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
690:							
Dibble-----	45	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Dusty	0.50	Dusty	0.50	Surface fragments (<3")	1.00
		Permeability .06-.6"/hr	0.46	Permeability .06-.6"/hr	0.46	>25%	
						Dusty	0.50
Geghus-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
700:							
Xerolls, loamy-skeletal-	55	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
Los Gatos-----	30	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
						Bedrock 20-40"; slope >2%	0.50
720:							
Friant-----	50	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Fragments (<3") >50%	1.00	Fragments (<3") >50%	1.00	Surface fragments (<3")	1.00
		Bedrock depth <20"	1.00	Bedrock depth <20"	1.00	>25%	
						Bedrock depth <20"	1.00
Geghus-----	20	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
Lithic Xerorthents, thermic-----	20	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Bedrock depth <20"	1.00	Bedrock depth <20"	1.00	Bedrock depth <20"	1.00
		Fragments (<3") 25-50%	0.08	Fragments (<3") 25-50%	0.08	Surface fragments (<3")	1.00
						>25%	
724:							
Elkhills-----	90	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
725:							
Sodic Haplocambids, thick-----	85	Limitations		Limitations		Limitations	
		SAR >12	1.00	Slopes 8-15%	0.63	Slopes >6%	1.00
		Slopes 8-15%	0.63	Permeability .06-.6"/hr	0.46	Permeability .06-.6"/hr	0.46
		Permeability .06-.6"/hr	0.46	Surface SAR 8-13	0.32	Surface SAR 8-13	0.32

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
726: Sodic Haplocambids, thick-----	90	Limitations Slopes >15% SAR >12 Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Slopes >15% Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32	Limitations Slopes >6% Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32
727: Sodic Haplocambids, thick-----	90	Limitations Slopes >15% SAR >12 Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Slopes >15% Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32	Limitations Slopes >6% Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32
728: Torriorthents, very thin	85	Limitations Slopes >15% Surface EC >8 mmhos/cm SAR >12	1.00 1.00 1.00	Limitations Slopes >15% Surface EC >8 mmhos/cm Surface SAR >13	1.00 1.00 1.00	Limitations Slopes >6% Surface EC >8 mmhos/cm Surface SAR >13	1.00 1.00 1.00
729: Sodic Haplocambids, thick-----	40	Limitations Slopes >15% SAR >12 Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Slopes >15% Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32	Limitations Slopes >6% Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32
Torriorthents, thin----	30	Limitations Slopes >15% SAR >12 Dusty	1.00 1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Torriorthents, very thin, eroded-----	15	Limitations Slopes >15% Surface EC >8 mmhos/cm SAR >12	1.00 1.00 1.00	Limitations Slopes >15% Surface EC >8 mmhos/cm Surface SAR >13	1.00 1.00 1.00	Limitations Slopes >6% Surface EC >8 mmhos/cm Surface SAR >13	1.00 1.00 1.00
730: Haplocambids, thick----	50	Limitations SAR >12 Slopes 8-15% Dusty	1.00 0.63 0.50	Limitations Slopes 8-15% Dusty	0.63 0.50	Limitations Slopes >6% Dusty	1.00 0.50
Elkhills-----	30	Limitations Slopes 8-15%	0.63	Limitations Slopes 8-15%	0.63	Limitations Slopes >6%	1.00

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
731:							
Haplocambids, thick-----	45	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		SAR >12	1.00	Dusty	0.50	Dusty	0.50
		Dusty	0.50				
Elkhills-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
732:							
Elkhills-----	50	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
Haplocambids, thick-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		SAR >12	1.00	Dusty	0.50	Dusty	0.50
		Dusty	0.50				
733:							
Sodic Haplocambids, thick-----	50	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		SAR >12	1.00	Permeability .06-.6"/hr	0.46	Permeability .06-.6"/hr	0.46
		Permeability .06-.6"/hr	0.46	Surface SAR 8-13	0.32	Surface SAR 8-13	0.32
Torriorthents, thin-----	35	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		SAR >12	1.00	Dusty	0.50	Dusty	0.50
		Dusty	0.50				
734:							
Sodic Haplocambids, thick-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		SAR >12	1.00	Permeability .06-.6"/hr	0.46	Permeability .06-.6"/hr	0.46
		Permeability .06-.6"/hr	0.46	Surface SAR 8-13	0.32	Surface SAR 8-13	0.32
Torriorthents, very thin, eroded-----	25	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Surface EC >8 mmhos/cm	1.00	Surface EC >8 mmhos/cm	1.00	Surface EC >8 mmhos/cm	1.00
		SAR >12	1.00	Surface SAR >13	1.00	Surface SAR >13	1.00
Elkhills-----	24	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
735: Sodic Haplocambids, thick-----	40	Limitations Slopes >15% SAR >12 Permeability .06-.6"/hr	1.00 1.00 0.46	Limitations Slopes >15% Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32	Limitations Slopes >6% Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32
Elkhills-----	25	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
Torriorthents, thin-----	20	Limitations Slopes >15% SAR >12 Dusty	1.00 1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty	1.00 0.50
750: Ballinger-----	85	Limitations Slopes >15% Surface clay >= 40% Surface EC >8 mmhos/cm	1.00 1.00 1.00	Limitations Slopes >15% Surface clay >= 40% Surface EC >8 mmhos/cm	1.00 1.00 1.00	Limitations Slopes >6% Surface clay >= 40% Surface EC >8 mmhos/cm	1.00 1.00 1.00
760: Ballinger-----	85	Limitations Slopes >15% Surface clay >= 40% Surface EC >8 mmhos/cm	1.00 1.00 1.00	Limitations Slopes >15% Surface clay >= 40% Surface EC >8 mmhos/cm	1.00 1.00 1.00	Limitations Slopes >6% Surface clay >= 40% Surface EC >8 mmhos/cm	1.00 1.00 1.00
780: Stutzville-----	85	Limitations Surface EC >8 mmhos/cm Flooding >= rare SAR >12	1.00 1.00 1.00	Limitations Surface EC >8 mmhos/cm Permeability .06-.6"/hr Surface SAR 8-13	1.00 0.46 0.32	Limitations Surface EC >8 mmhos/cm Occasional flooding Permeability .06-.6"/hr	1.00 0.50 0.46
850: Xerofluvents-----	85	Limitations Flooding >= rare Fragments (<3") 25-50%	1.00 0.80	Limitations Fragments (<3") 25-50% Frequent flooding	0.80 0.50	Limitations Surface fragments (<3") >25% Flooding > Occasional Slopes 2-6%	1.00 1.00 1.00 0.02
860: Hawk-----	90	Limitations Flooding >= rare Slopes 8-15%	1.00 0.63	Limitations Slopes 8-15%	0.63	Limitations Slopes >6%	1.00

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
870: Frazier-----	80	Limitations Slopes >15% Fragments (<3") >50%	1.00 1.00	Limitations Slopes >15% Fragments (<3") >50%	1.00 1.00	Limitations Slopes >6% Surface fragments (<3") >25% Bedrock 20-40"; slope >2%	1.00 1.00 0.50
880: Chuchupate-----	90	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Bedrock 20-40"; slope >2%	1.00 0.50
890: Gorman-----	90	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.32
919: Zonap-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
Harrisranch-----	30	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6%	1.00
Beam-----	15	Limitations Slopes >15% Bedrock depth <20" Surface sand fractions 70-90% by wt.	1.00 1.00 0.01	Limitations Slopes >15% Bedrock depth <20" Surface sand fractions 70-90% by wt.	1.00 1.00 0.01	Limitations Slopes >6% Bedrock depth <20" Surface sand fractions 70-90% by wt.	1.00 1.00 0.01
930: Bitcreek-----	40	Limitations Slopes >15% Permeability .06-.6"/hr	1.00 0.46	Limitations Slopes >15% Permeability .06-.6"/hr	1.00 0.46	Limitations Slopes >6% Surface fragments (<3") 10-25% Permeability .06-.6"/hr	1.00 0.68 0.46
Shimmon-----	25	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty Surface fragments (<3") 10-25%	1.00 0.50 0.32

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
930: Balhud-----	15	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50
932: Bitcreek-----	40	Limitations Slopes >15% Permeability .06-.6"/hr	1.00 0.46	Limitations Slopes >15% Permeability .06-.6"/hr	1.00 0.46	Limitations Slopes >6% Surface fragments (<3") 10-25% Permeability .06-.6"/hr	1.00 0.68 0.46
Shimmon-----	25	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >15% Dusty	1.00 0.50	Limitations Slopes >6% Dusty Surface fragments (<3") 10-25%	1.00 0.50 0.32
Balhud-----	20	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50
940: Bitcreek-----	90	Limitations Permeability .06-.6"/hr	0.46	Limitations Permeability .06-.6"/hr	0.46	Limitations Slopes 2-6% Surface fragments (<3") 10-25% Permeability .06-.6"/hr	0.74 0.68 0.46
950: Pleito-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >6% Surface fragments (<3") 10-25%	1.00 0.56
Ballinger-----	25	Limitations Slopes >15% Surface clay >= 40% Surface EC >8 mmhos/cm	1.00 1.00 1.00	Limitations Slopes >15% Surface clay >= 40% Surface EC >8 mmhos/cm	1.00 1.00 1.00	Limitations Slopes >6% Surface clay >= 40% Surface EC >8 mmhos/cm	1.00 1.00 1.00
Balhud-----	20	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth <20" Dusty	1.00 1.00 0.50	Limitations Slopes >6% Bedrock depth <20" Dusty	1.00 1.00 0.50

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
951:							
Bitcreek-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Permeability .06-.6"/hr	0.46	Permeability .06-.6"/hr	0.46	Surface fragments (<3") 10-25%	0.68
						Permeability .06-.6"/hr	0.46
Balhud-----	30	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Bedrock depth <20"	1.00	Bedrock depth <20"	1.00	Bedrock depth <20"	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
Ballinger-----	15	Limitations		Limitations		Limitations	
		Surface clay >= 40%	1.00	Surface clay >= 40%	1.00	Surface clay >= 40%	1.00
		Surface EC >8 mmhos/cm	1.00	Surface EC >8 mmhos/cm	1.00	Slopes >6%	1.00
		Slopes >15%	1.00	Slopes >15%	1.00	Surface EC >8 mmhos/cm	1.00
954:							
Typic Haploxerafs, fine-	50	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Permeability .06-.6"/hr	0.46	Permeability .06-.6"/hr	0.46	Permeability .06-.6"/hr	0.46
						Surface fragments (<3") 10-25%	0.44
Haploxerolls, coarse- loamy-----	30	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Fragments (<3") 25-50%	0.01	Fragments (<3") 25-50%	0.01	Surface fragments (<3") >25%	1.00
						Bedrock 20-40"; slope >2%	0.50
955:							
Calcic Haploxerepts-----	30	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
Xerorthents, shallow----	25	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00
		Bedrock depth <20"	1.00	Bedrock depth <20"	1.00	Bedrock depth <20"	1.00
		Permeability .06-.6"/hr	0.50	Permeability .06-.6"/hr	0.50	Permeability .06-.6"/hr	0.50
Badlands-----	20	Not rated		Not rated		Not rated	
970:							
Harrisranch-----	50	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >6%	1.00

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Limitations	Value	Limitations	Value	Limitations	Value
970: Bitcreek-----	35	Limitations Slopes >15% Permeability .06-.6"/hr	1.00 0.46	Limitations Slopes >15% Permeability .06-.6"/hr	1.00 0.46	Limitations Slopes >6% Surface fragments (<3") 10-25% Permeability .06-.6"/hr	1.00 0.68 0.46
980: Area not surveyed, access denied-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

The interpretation for camp areas evaluates the following soil properties and characteristics: flooding; ponding; wetness; slope; depth to bedrock; depth to a cemented pan; fragments less than, equal to, or greater than 3 inches in size; sodium content (SAR); salinity (EC); a clayey surface layer; Unified classes for a high content of organic matter (PT, OL, and OH); soil dustiness; and permeability (Ksat) that is too rapid, allowing seepage in some climates.

The interpretation for picnic areas evaluates the following soil properties and characteristics: flooding, ponding, wetness, slope, depth to bedrock, depth to a cemented pan, salinity (EC), pH, soil dustiness, fragments greater than 3 inches in size, surface rock fragments greater than 10 inches in size, the content of sand or clay in the surface layer, Unified classes for high content of organic matter (PT, OL, and OH), and permeability (Ksat) that is too rapid, allowing seepage in some climates.

The interpretation for playgrounds evaluates the following soil properties and characteristics: flooding, ponding, wetness, slope, depth to bedrock, depth to a cemented pan, surface rock fragments greater than 10 inches in size, fragments equal to or less than 3 inches in size, Unified classes for high content of organic matter (PT, OL, and OH), soil dustiness, sand or clay content in the surface layer, pH, salinity (EC), and permeability that is too rapid, allowing seepage in some climates.

Table 10b.--Recreational Development (Part 2)

[The information in this table is based on interpretations developed by the Pacific Southwest MLRA Office. The information indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The rating is based on the limitation with the highest value. Only the three highest-value limitations are listed. There may be more limitations. Fine-earth fractions and coarse fragments are reported on the basis of weight. An explanation of the rating criteria and of the abbreviations used in describing the limitations is given at the end of the table]

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
101: Bakersfield, drained-----	80	No limitations		No limitations		No Limitations	
102: Bakersfield, partially drained-----	85	No limitations		No limitations		Limitations	
110: Buttonwillow, partially drained-----	75	Limitations Surface clay >= 40%	1.00	Limitations Surface clay >= 40%	1.00	Limitations Clay in surface >= 40%	1.00
120: Granoso-----	85	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations AWC 2-4" to 40"	0.15
121: Granoso-----	85	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations AWC 2-4" to 40"	0.01
122: Granoso, loamy substratum-----	85	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations AWC 2-4" to 40"	0.01
123: Granoso-----	85	No limitations		No limitations		Limitations AWC 2-4" to 40"	0.03
124: Granoso-----	90	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations AWC 2-4" to 40"	0.34

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
130: Cerini-----	85	No limitations		No limitations		No Limitations	
131: Calflax-----	85	No limitations		No limitations		Limitations SAR >12 Surface EC 4-6 mmhos/cm	1.00 0.01
132: Cerini-----	85	Limitations Dusty	0.50	Limitations Dusty	0.50	No Limitations	
133: Calflax-----	85	Limitations Dusty	0.50	Limitations Dusty	0.50	Limitations SAR >12 Surface EC 4-6 mmhos/cm	1.00 0.01
134: Cerini-----	85	Limitations Dusty	0.50	Limitations Dusty	0.50	No Limitations	
140: Copus silty clay, partially drained-----	85	Limitations Surface clay >= 40%	1.00	Limitations Surface clay >= 40%	1.00	Limitations Clay in surface >= 40% Surface EC 6-8 mmhos/cm	1.00 0.13
141: Copus clay, partially drained-----	95	Limitations Surface clay >= 40%	1.00	Limitations Surface clay >= 40%	1.00	Limitations Clay in surface >= 40% Surface EC 6-8 mmhos/cm	1.00 0.13
150: Excelsior-----	85	No limitations		No limitations		No Limitations	
151: Excelsior, saline-sodic-	85	No limitations		No limitations		Limitations Surface EC 4-6 mmhos/cm	0.01
152: Excelsior-----	85	Limitations Dusty	0.50	Limitations Dusty	0.50	No Limitations	

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
153: Tupman-----	80	No limitations		No limitations		Limitations Gravel-size fragments 25-50% AWC 2-4" to 40"	0.92 0.01
154: Tupman-----	70	No limitations		No limitations		Limitations Gravel-size fragments 25-50% AWC 2-4" to 40"	0.92 0.01
Urban land-----	20	Not rated		Not rated		Not rated	
160: Fages-----	80	Limitations Surface clay >= 40%	1.00	Limitations Surface clay >= 40%	1.00	Limitations SAR >12 Surface EC >8 mmhos/cm Clay in surface >= 40%	1.00 1.00 1.00
179: Padres-----	70	No limitations		No limitations		No Limitations	
180: Garces-----	85	Limitations Dusty	0.50	Limitations Dusty	0.50	Limitations SAR >12 Surface EC 6-8 mmhos/cm	1.00 0.13
190: Guijarral-----	85	No limitations		No limitations		No Limitations	
191: Guijarral-----	85	No limitations		No limitations		No Limitations	
192: Guijarral-----	45	No limitations		No limitations		No Limitations	
Klipstein-----	45	Limitations Fragments >10" .1-3%	0.76	Limitations Surface fragments (>10") .1-3% coverage	0.76	Limitations AWC 2-4" to 40"	0.97
193: Guijarral-----	85	No limitations		No limitations		Limitations Gravel-size fragments 25-50%	0.08

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
195: Guijarral, extremely gravelly substratum-----	60	No limitations		No limitations		Limitations Gravel-size fragments 25-50%	0.08
Guijarral-----	30	No limitations		No limitations		Limitations Gravel-size fragments 25-50%	0.08
197: Klipstein-----	60	Limitations Fragments >10" >3%	1.00	Limitations Surface fragments (>10") >3% coverage	1.00	Limitations AWC 2-4" to 40" Slopes 8-15%	0.97 0.16
Guijarral-----	25	No limitations		No limitations		Limitations Slopes 8-15% Gravel-size fragments 25-50%	0.16 0.08
200: Hesperia-----	85	Limitations Surface sand fractions 70-90% by wt.	0.76	Limitations Surface sand fractions 70-90% by wt.	0.76	No Limitations	
201: Hesperia-----	85	No limitations		No limitations		No Limitations	
210: Kimberlina-----	85	Limitations Surface sand fractions 70-90% by wt.	0.01	Limitations Surface sand fractions 70-90% by wt.	0.01	No Limitations	
211: Kimberlina-----	80	No limitations		No limitations		No Limitations	
212: Kimberlina, saline-sodic	85	Limitations Surface sand fractions 70-90% by wt.	0.01	Limitations Surface sand fractions 70-90% by wt.	0.01	Limitations SAR >12 Surface EC 6-8 mmhos/cm	1.00 0.50
214: Kimberlina-----	85	No limitations		No limitations		Limitations Gravel-size fragments 25-50%	0.08

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
215: Kimberlina-----	85	No limitations		No limitations		Limitations Gravel-size fragments 25-50%	0.18
216: Kimberlina, occasionally flooded-----	50	No limitations		No limitations		Limitations Occasional flooding	0.80
Granoso, occasionally flooded-----	35	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations Surface sand fractions 70-90% by wt.	0.60	Limitations AWC 2-4" to 40" Occasional flooding	0.88 0.80
217: Kimberlina-----	50	No limitations		No limitations		No Limitations	
Urban land-----	35	Not rated		Not rated		Not rated	
219: Xerorthents-----	50	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Gravel-size fragments >50% AWC 2-4" to 40"	1.00 1.00 0.94
Badlands-----	35	Not rated		Not rated		Not rated	
220: Lokern, drained-----	85	Limitations Surface clay >= 40%	1.00	Limitations Surface clay >= 40%	1.00	Limitations Clay in surface >= 40%	1.00
221: Lokern, partially drained-----	85	Limitations Surface clay >= 40%	1.00	Limitations Surface clay >= 40%	1.00	Limitations Clay in surface >= 40% SAR >12 Surface EC 6-8 mmhos/cm	1.00 1.00 0.50
230: Milagro-----	85	Limitations Surface sand fractions 70-90% by wt.	0.86	Limitations Surface sand fractions 70-90% by wt.	0.86	No Limitations	

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
231: Milagro-----	85	No limitations		No limitations		No Limitations	
240: Millox, partially drained-----	85	No limitations		No limitations		Limitations SAR >12 AWC 2-4" to 40"	1.00 0.45
241: Millox, partially drained, nonsaline-----	85	No limitations		No limitations		Limitations SAR >12 AWC 2-4" to 40"	1.00 0.03
242: Millox, partially drained-----	55	No limitations		No limitations		Limitations SAR >12 AWC 2-4" to 40"	1.00 0.45
Tennco-----	35	Limitations Dusty	0.50	Limitations Dusty	0.50	Limitations Surface EC >8 mmhos/cm SAR >12	1.00 1.00
243: Millox, partially drained-----	50	No limitations		No limitations		Limitations SAR >12 AWC 2-4" to 40"	1.00 0.41
Zalvidea, partially drained-----	35	No limitations		No limitations		Limitations Surface EC 6-8 mmhos/cm	0.13
246: Whitewolf-----	85	No limitations		No limitations		Limitations AWC 2-4" to 40"	0.39
250: Oldriver-----	85	Limitations Dusty	0.50	Limitations Dusty	0.50	No Limitations	

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
251: Oldriver, partially drained, sodic-----	85	Limitations Dusty	0.50	Limitations Dusty	0.50	Limitations SAR >12	1.00
260: Panoche-----	85	Limitations Dusty	0.50	Limitations Dusty	0.50	No Limitations	
270: Pits-----	50	Not rated		Not rated		Not rated	
Dumps-----	50	Not rated		Not rated		Not rated	
280: Premier-----	85	No limitations		No limitations		No Limitations	
281: Premier-----	85	No limitations		No limitations		No Limitations	
290: Riverwash-----	85	Not rated		Not rated		Not rated	
300: Tennco-----	85	No limitations		No limitations		Limitations Surface EC >8 mmhos/cm SAR >12	1.00 1.00
310: Vineland, drained-----	85	Limitations Surface sand fractions 70-90% by wt.	0.52	Limitations Surface sand fractions 70-90% by wt.	0.52	Limitations AWC 2-4" to 40"	0.25
312: Vineland, drained-----	50	Limitations Surface sand fractions 70-90% by wt.	0.52	Limitations Surface sand fractions 70-90% by wt.	0.52	Limitations AWC 2-4" to 40"	0.25
Bakersfield, drained-----	40	No limitations		No limitations		No Limitations	
320: Wasco-----	85	No limitations		No limitations		No Limitations	
330: Cuyama-----	85	No limitations		No limitations		Limitations Fragments >3" 5-30%	0.01

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
331: Cuyama-----	85	No limitations		No limitations		Limitations Slopes 8-15% Fragments >3" 5-30%	0.16 0.01
332: Cuyama-----	85	Limitations Slopes 15-25%	0.92	No limitations		Limitations Slopes >15% Fragments >3" 5-30%	1.00 0.01
340: Weedpatch-----	85	No limitations		No limitations		Limitations Surface EC 6-8 mmhos/cm	0.15
350: Posochanet, saline-sodic	85	Limitations Dusty	0.50	Limitations Dusty	0.50	Limitations SAR >12 Surface EC >8 mmhos/cm	1.00 1.00
351: Posochanet, saline-sodic	75	No limitations		No limitations		Limitations SAR >12 Surface EC >8 mmhos/cm	1.00 1.00
352: Posochanet-----	70	Limitations Dusty	0.50	Limitations Dusty	0.50	Limitations SAR >12 Surface EC >8 mmhos/cm	1.00 1.00
Posochanet, partially reclaimed-----	20	Limitations Dusty	0.50	Limitations Dusty	0.50	Limitations Surface EC >8 mmhos/cm	1.00
360: Wheelridge-----	85	Limitations Surface sand fractions 70-90% by wt.	0.36	Limitations Surface sand fractions 70-90% by wt.	0.36	Limitations AWC 2-4" to 40" Gravel-size fragments 25-50%	0.51 0.05
370: Whitewolf-----	85	Limitations Surface sand fractions 70-90% by wt.	0.79	Limitations Surface sand fractions 70-90% by wt.	0.79	Limitations AWC 2-4" to 40"	0.39

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
371: Whitewolf-----	85	Limitations Surface sand fractions 70-90% by wt.	0.79	Limitations Surface sand fractions 70-90% by wt.	0.79	Limitations AWC 2-4" to 40"	0.39
380: Zalvidea, partially drained-----	85	No limitations		No limitations		Limitations Surface EC 6-8 mmhos/cm	0.13
381: Zalvidea, partially drained-----	85	No limitations		No limitations		Limitations Surface EC 6-8 mmhos/cm	0.13
389: Xerofluvents-----	30	No limitations		No limitations		Limitations AWC <2" to 40" Occasional flooding Gravel-size fragments 25-50%	1.00 0.80 0.79
Haploxerepts-----	30	No limitations		No limitations		Limitations Gravel-size fragments 25-50% AWC 2-4" to 40"	0.79 0.01
Riverwash-----	15	Not rated		Not rated		Not rated	
390: Pleito-----	85	No limitations		No limitations		Limitations AWC 2-4" to 40"	0.40
391: Pleito-----	80	No limitations		No limitations		Limitations AWC 2-4" to 40"	0.40
392: Pleito-----	85	No limitations		No limitations		Limitations AWC 2-4" to 40"	0.40
393: Pleito-----	85	Limitations Slopes 15-25%	0.50	No limitations		Limitations Slopes >15% AWC 2-4" to 40"	1.00 0.40

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
394: Pleito-----	45	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC 2-4" to 40"	1.00 0.40
Xeric Torriorthents, very gravelly-----	40	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC <2" to 40" Fragments >3" 5-30%	1.00 1.00 0.84
395: Pleito-----	50	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.56	Limitations Slopes >15% AWC 2-4" to 40"	1.00 0.40
Emidio-----	20	Limitations Dusty Slopes 15-25%	0.50 0.02	Limitations Dusty	0.50	Limitations Slopes >15%	1.00
Loslobos-----	15	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
396: Pleito-----	60	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.56	Limitations Slopes >15% AWC 2-4" to 40"	1.00 0.40
Loslobos-----	25	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
398: Calcic Haploxerepts-----	30	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
Calcic Pachic Argixerolls, fine-----	25	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
Xerorthents, shallow----	20	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC <2" to 40" Bedrock depth <20"	1.00 1.00 1.00

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
400: Loslobos-----	35	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
Xeric Torriorthents, very gravelly-----	25	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC <2" to 40" Fragments >3" 5-30%	1.00 1.00 0.84
Badlands-----	20	Not rated		Not rated		Not rated	
401: Loslobos-----	85	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15%	1.00
402: Loslobos-----	40	No limitations		No limitations		Limitations Slopes >15%	1.00
Walong-----	30	Limitations Fragments >10" >3% Fragments >3" 25-75%	1.00 0.58	Limitations Surface fragments (>10") >3% coverage Surface fragments (>3") 25-75%	1.00 0.58	Limitations Slopes >15% Fragments >3" >30% AWC <2" to 40"	1.00 1.00 1.00
403: Loslobos-----	45	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
Calleguas-----	35	Limitations Slopes >25% K-factor >.35; slopes >8%	1.00 1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.88
404: Loslobos, moist-----	85	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
430: Littlesignal-----	45	Limitations Slopes 15-25% Dusty	0.92 0.50	Limitations Dusty	0.50	Limitations Slopes >15%	1.00

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
430: Cochora-----	40	Limitations K-factor >.35; slopes >8% Slopes 15-25% Dusty	1.00 0.92 0.50	Limitations Dusty	0.50	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.89
431: Littlesignal-----	50	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15%	1.00
Cochora-----	35	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.89
432: Littlesignal-----	45	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15%	1.00
Badlands-----	25	Not rated		Not rated		Not rated	
Cochora-----	20	Limitations K-factor >.35; slopes >8% Slopes >25% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.89
440: Elkhills-----	50	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.56	Limitations Slopes >15%	1.00
Pyxo-----	35	Limitations K-factor >.35; slopes >8% Slopes >25% Dusty	1.00 1.00 0.50	Limitations Slopes 25-40% Dusty	0.56 0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.46
441: Sodic Haplocambids, thick-----	60	Limitations K-factor >.35; slopes >8% Slopes 15-25%	1.00 0.50	No limitations		Limitations SAR >12 Slopes >15%	1.00 1.00
442: Elkhills-----	80	No limitations		No limitations		Limitations Slopes 8-15%	0.16

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
443:							
Elkhills-----	40	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
Badlands-----	40	Not rated		Not rated		Not rated	
444:							
Elkhills-----	90	Limitations Slopes 15-25%	0.82	No limitations		Limitations Slopes >15%	1.00
445:							
Sodic Haplocambids, thick-----	45	Limitations Slopes >25% K-factor >.35; slopes >8%	1.00 1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% SAR >12	1.00 1.00
Elkhills-----	40	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
451:							
Beam-----	35	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.83
Panoza-----	30	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.90
Hillbrick-----	15	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.34
460:							
Geghus-----	50	Limitations Slopes 15-25% Dusty	0.50 0.50	Limitations Dusty	0.50	Limitations Slopes >15%	1.00
Tecuya-----	30	Limitations K-factor >.35; slopes >8% Fragments >10" >3% Dusty	1.00 1.00 0.50	Limitations Surface fragments (>10") >3% coverage Dusty	1.00 0.50	Limitations Slopes 8-15% Fragments >3" 5-30%	0.63 0.01

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Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
461: Geghus-----	50	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Slopes 25-40% Dusty	0.86 0.50	Limitations Slopes >15%	1.00
Tecuya-----	35	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Fragments >3" 5-30%	1.00 1.00 0.01
462: Geghus-----	55	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15%	1.00
Xeric Torriorthents, very gravelly-----	30	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC <2" to 40" Fragments >3" 5-30%	1.00 1.00 0.84
470: Pyxo-----	55	Limitations K-factor >.35; slopes >8% Slopes 15-25% Dusty	1.00 0.92 0.50	Limitations Dusty	0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 1.00 0.01
Cochora-----	30	Limitations K-factor >.35; slopes >8% Slopes 15-25% Dusty	1.00 0.92 0.50	Limitations Dusty	0.50	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.89
471: Pyxo-----	40	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 1.00 0.65
Cochora-----	25	Limitations K-factor >.35; slopes >8% Slopes 15-25% Dusty	1.00 0.92 0.50	Limitations Dusty	0.50	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.89
Badlands-----	15	Not rated		Not rated		Not rated	

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Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
472:							
Pyxo-----	30	Limitations K-factor >.35; slopes >8% Dusty	1.00 0.50	Limitations Dusty	0.50	Limitations Bedrock depth 20-40" Slopes 8-15%	0.46 0.16
Kimberlina-----	30	No limitations		No limitations		Limitations Slopes 8-15%	0.16
Cochora-----	25	Limitations K-factor >.35; slopes >8% Dusty	1.00 0.50	Limitations Dusty	0.50	Limitations Bedrock depth <20" AWC 2-4" to 40" Slopes 8-15%	1.00 0.89 0.16
480:							
Pyxo, dry-----	45	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.46
Elkhills-----	35	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
490:							
Padres-----	65	No limitations		No limitations		No Limitations	
500:							
Bitcreek-----	85	No limitations		No limitations		No Limitations	
510:							
Beam-----	35	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.83
Panoza-----	30	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.90
Hillbrick-----	15	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.34

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
511:							
Beam-----	35	Limitations Slopes 15-25%	0.92	No limitations		Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.83
Panoza-----	30	Limitations K-factor >.35; slopes >8% Slopes 15-25% Dusty	1.00 0.92 0.50	Limitations Dusty	0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.90
Hillbrick-----	15	Limitations K-factor >.35; slopes >8% Slopes 15-25% Dusty	1.00 0.92 0.50	Limitations Dusty	0.50	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.34
515:							
Zonap-----	50	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.80
Badlands-----	20	Not rated		Not rated		Not rated	
Beam-----	15	Limitations Slopes >25% Surface sand fractions 70-90% by wt.	1.00 0.01	Limitations Slopes >40% Surface sand fractions 70-90% by wt.	1.00 0.01	Limitations Slopes >15% Bedrock depth <20" AWC <2" to 40"	1.00 1.00 1.00
516:							
Zonap-----	45	Limitations Slopes 15-25%	0.92	No limitations		Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.80
Beam-----	40	Limitations Slopes 15-25% Surface sand fractions 70-90% by wt.	0.88 0.01	Limitations Surface sand fractions 70-90% by wt.	0.01	Limitations Slopes >15% Bedrock depth <20" AWC <2" to 40"	1.00 1.00 1.00
530:							
Tehachapi-----	80	Limitations Dusty	0.50	Limitations Dusty	0.50	No Limitations	

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
531: Tehachapi-----	85	Limitations Dusty Slopes 15-25%	0.50 0.18	Limitations Dusty	0.50	Limitations Slopes >15% Gravel-size fragments 25-50%	1.00 0.11
540: Xeric Torriorthents-----	50	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC 2-4" to 40" Gravel-size fragments 25-50%	1.00 0.67 0.08
Badlands-----	25	Not rated		Not rated		Not rated	
550: Elkhills-----	45	Limitations Slopes 15-25%	0.50	No limitations		Limitations Slopes >15%	1.00
Welport-----	45	No limitations		No limitations		Limitations Depth to pan < 20" AWC <2" to 40" Slopes 8-15%	1.00 1.00 0.63
560: Laval-----	44	Limitations Frequent flooding	0.50	Limitations Frequent flooding	0.50	Limitations AWC <2" to 40" Frequent flooding	1.00 0.90
Pleitito-----	44	Limitations Frequent flooding	0.50	Limitations Frequent flooding	0.50	Limitations Frequent flooding AWC 2-4" to 40"	0.90 0.08
561: Laval-----	45	Limitations Frequent flooding	0.50	Limitations Frequent flooding	0.50	Limitations AWC <2" to 40" Frequent flooding	1.00 0.90
Pleitito-----	45	Limitations Frequent flooding	0.50	Limitations Frequent flooding	0.50	Limitations Frequent flooding Slopes 8-15% AWC 2-4" to 40"	0.90 0.16 0.08

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
570:							
Hillbrick-----	65	Limitations K-factor >.35; slopes >8% Slopes >25% Dusty	1.00 1.00 0.50	Limitations Slopes 25-40% Dusty	0.56 0.50	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.34
Rock outcrop-----	15	Not rated		Not rated		Not rated	
571:							
Hillbrick-----	65	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.34
Rock outcrop-----	15	Not rated		Not rated		Not rated	
580:							
Reward-----	45	Limitations Slopes 15-25% Dusty	0.92 0.50	Limitations Dusty	0.50	Limitations Slopes >15% Gravel-size fragments 25-50%	1.00 0.25
Hillbrick-----	45	Limitations Slopes 15-25%	0.92	No limitations		Limitations Slopes >15% Bedrock depth <20" AWC <2" to 40"	1.00 1.00 1.00
581:							
Reward-----	85	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Gravel-size fragments 25-50%	1.00 0.25
583:							
Bellyspring-----	35	No limitations		No limitations		Limitations Slopes 8-15% Bedrock depth 20-40"	0.63 0.01
Panoza-----	25	Limitations K-factor >.35; slopes >8% Dusty	1.00 0.50	Limitations Dusty	0.50	Limitations Bedrock depth 20-40" Slopes 8-15%	0.90 0.63
584:							
Bellyspring-----	35	Limitations Slopes 15-25%	0.92	No limitations		Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.01

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
584: Panoza-----	30	Limitations K-factor >.35; slopes >8% Slopes 15-25% Dusty	1.00 0.92 0.50	Limitations Dusty	0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.90
585: Bellyspring-----	35	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.01
Panoza-----	30	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.90
586: Panoza-----	40	Limitations K-factor >.35; slopes >8% Slopes 15-25% Dusty	1.00 0.92 0.50	Limitations Dusty	0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.90
Beam-----	30	Limitations Slopes 15-25%	0.92	No limitations		Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.83
587: Panoza-----	40	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.90
Beam-----	30	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.83
588: Panoza-----	40	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.90

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
588: Beam-----	30	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 1.00 0.83
590: Gorman-----	35	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
Typic Xerorthents, mesic	30	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.16
Xerorthents, shallow----	20	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC <2" to 40" Bedrock depth <20"	1.00 1.00 1.00
591: Geghus-----	40	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15%	1.00
Selby-----	40	Limitations Slopes >25% Dusty Fragments >3" 25-75%	1.00 0.50 0.26	Limitations Slopes >40% Dusty Surface fragments (>3") 25-75%	1.00 0.50 0.26	Limitations Slopes >15% Fragments >3" >30% AWC <2" to 40"	1.00 1.00 1.00
600: Positas-----	45	Limitations Dusty	0.50	Limitations Dusty	0.50	No Limitations	
Bitcreek-----	35	No limitations		No limitations		No Limitations	
610: Balcom-----	55	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.20
Rock outcrop-----	20	Not rated		Not rated		Not rated	

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
620:							
Typic Xerorthents, mesic	40	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.16
Haploxerepts-----	40	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% Gravel-size fragments 25-50% AWC 2-4" to 40"	1.00 0.79 0.01
Xerorthents, sandy-----	18	Limitations Slopes >25% Surface sand fractions 70-90% by wt.	1.00 0.81	Limitations Slopes >40% Surface sand fractions 70-90% by wt.	1.00 0.81	Limitations Slopes >15% AWC 2-4" to 40" Gravel-size fragments 25-50%	1.00 0.60 0.08
640:							
Bitcreek-----	40	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.44	Limitations Slopes >15%	1.00
Dibble-----	30	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Dusty Slopes 25-40%	0.50 0.44	Limitations Slopes >15% Gravel-size fragments 25-50% Bedrock depth 20-40"	1.00 0.11 0.01
Eaglerest-----	15	Limitations K-factor >.35; slopes >8% Slopes 15-25% Dusty	1.00 0.88 0.50	Limitations Dusty	0.50	Limitations Slopes >15% Bedrock depth <20" AWC <2" to 40"	1.00 1.00 1.00
650:							
Lithic Argixerolls-----	50	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC <2" to 40" Bedrock depth <20"	1.00 1.00 1.00

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
650: Lithic Xerorthents, mesic-----	25	Limitations Slopes >25% Fragments >10" >3% Fragments >3" 25-75%	1.00 1.00 0.86	Limitations Slopes >40% Surface fragments (>10") >3% coverage Surface fragments (>3") 25-75%	1.00 1.00 0.86	Limitations Bedrock depth <20" Slopes >15% Fragments >3" >30%	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
660: Elkhills-----	70	Limitations Slopes 15-25%	0.92	No limitations		Limitations Slopes >15%	1.00
Legray-----	20	Limitations Slopes 15-25%	0.88	No limitations		Limitations Slopes >15% AWC 2-4" to 40" Fragments >3" 5-30%	1.00 0.36 0.03
661: Elkhills-----	40	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
Legray-----	40	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC 2-4" to 40" Fragments >3" 5-30%	1.00 0.36 0.03
670: Harrisranch-----	60	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
680: Milham-----	90	No limitations		No limitations		No Limitations	
690: Dibble-----	45	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Gravel-size fragments 25-50% Bedrock depth 20-40"	1.00 0.11 0.01

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
690: Geghus-----	40	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15%	1.00
700: Xerolls, loamy-skeletal-	55	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Not rated	
Los Gatos-----	30	Limitations Slopes >25% K-factor >.35; slopes >8%	1.00 1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% Bedrock depth 20-40" AWC 2-4" to 40"	1.00 0.54 10.02
720: Friant-----	50	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.44	Limitations Slopes >15% AWC <2" to 40" Bedrock depth <20"	1.00 1.00 1.00
Geghus-----	20	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Dusty Slopes 25-40%	0.50 0.44	Limitations Slopes >15%	1.00
Lithic Xerorthents, thermic-----	20	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Bedrock depth <20" Slopes >15% AWC <2" to 40"	1.00 1.00 1.00
724: Elkhills-----	90	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
725: Sodic Haplocambids, thick-----	85	Limitations K-factor >.35; slopes >8%	1.00	No limitations		Limitations SAR >12 Slopes 8-15%	1.00 0.63
726: Sodic Haplocambids, thick-----	90	Limitations K-factor >.35; slopes >8% Slopes 15-25%	1.00 0.92	No limitations		Limitations Slopes >15% SAR >12	1.00 1.00

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Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
727: Sodic Haplocambids, thick-----	90	Limitations Slopes >25% K-factor >.35; slopes >8%	1.00 1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% SAR >12	1.00 1.00
728: Torriorthents, very thin	85	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% Surface EC >8 mmhos/cm SAR >12	1.00 1.00 1.00
729: Sodic Haplocambids, thick-----	40	Limitations Slopes >25% K-factor >.35; slopes >8%	1.00 1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% SAR >12	1.00 1.00
Torriorthents, thin-----	30	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% SAR >12	1.00 1.00
Torriorthents, very thin, eroded-----	15	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.56	Limitations Slopes >15% Surface EC >8 mmhos/cm SAR >12	1.00 1.00 1.00
730: Haplocambids, thick-----	50	Limitations K-factor >.35; slopes >8% Dusty	1.00 0.50	Limitations Dusty	0.50	Limitations SAR >12 Slopes 8-15%	1.00 0.63
Elkhills-----	30	No limitations		No limitations		Limitations Slopes 8-15%	0.63
731: Haplocambids, thick-----	45	Limitations K-factor >.35; slopes >8% Slopes 15-25% Dusty	1.00 0.92 0.50	Limitations Dusty	0.50	Limitations Slopes >15% SAR >12	1.00 1.00

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
731: Elkhills-----	40	Limitations Slopes 15-25%	0.92	No limitations		Limitations Slopes >15%	1.00
732: Elkhills-----	50	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
Haplocambids, thick----	40	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% SAR >12	1.00 1.00
733: Sodic Haplocambids, thick-----	50	Limitations K-factor >.35; slopes >8% Slopes 15-25%	1.00 0.92	No limitations		Limitations Slopes >15% SAR >12	1.00 1.00
Torriorthents, thin----	35	Limitations K-factor >.35; slopes >8% Slopes 15-25% Dusty	1.00 0.92 0.50	Limitations Dusty	0.50	Limitations Slopes >15% SAR >12	1.00 1.00
734: Sodic Haplocambids, thick-----	40	Limitations K-factor >.35; slopes >8% Slopes >25%	1.00 1.00	Limitations Slopes 25-40%	0.56	Limitations Slopes >15% SAR >12	1.00 1.00
Torriorthents, very thin, eroded-----	25	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.56	Limitations Slopes >15% Surface EC >8 mmhos/cm SAR >12	1.00 1.00 1.00
Elkhills-----	24	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.56	Limitations Slopes >15%	1.00
735: Sodic Haplocambids, thick-----	40	Limitations Slopes >25% K-factor >.35; slopes >8%	1.00 1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% SAR >12	1.00 1.00

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Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
735: Elkhills-----	25	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
Torriorthents, thin-----	20	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% SAR >12	1.00 1.00
750: Ballinger-----	85	Limitations Surface clay >= 40% Slopes 15-25%	1.00 0.92	Limitations Surface clay >= 40%	1.00	Limitations Slopes >15% Surface EC >8 mmhos/cm Clay in surface >= 40%	1.00 1.00 1.00
760: Ballinger-----	85	Limitations Slopes >25% Surface clay >= 40%	1.00 1.00	Limitations Slopes >40% Surface clay >= 40%	1.00 1.00	Limitations Slopes >15% Surface EC >8 mmhos/cm Clay in surface >= 40%	1.00 1.00 1.00
780: Stutzville-----	85	No limitations		No limitations		Limitations Surface EC >8 mmhos/cm SAR >12 Occasional flooding	1.00 1.00 0.80
850: Xerofluvents-----	85	Limitations Frequent flooding	0.50	Limitations Frequent flooding	0.50	Limitations AWC <2" to 40" Frequent flooding Gravel-size fragments 25-50%	1.00 0.90 0.79
860: Hawk-----	90	No limitations		No limitations		Limitations Slopes 8-15% AWC 2-4" to 40"	0.63 0.46
870: Frazier-----	80	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC <2" to 40" Gravel-size fragments >50%	1.00 1.00 1.00

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Soil Survey of Kern County, California, Southwest Part

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
880: Chuchupate-----	90	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC 2-4" to 40" Bedrock depth 20-40"	1.00 0.84 0.06
890: Gorman-----	90	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.56	Limitations Slopes >15%	1.00
919: Zonap-----	40	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.56	Limitations Slopes >15% Bedrock depth 20-40"	1.00 0.80
Harrisranch-----	30	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.56	Limitations Slopes >15%	1.00
Beam-----	15	Limitations Slopes >25% Surface sand fractions 70-90% by wt.	1.00 0.01	Limitations Slopes 25-40% Surface sand fractions 70-90% by wt.	0.56 0.01	Limitations Slopes >15% Bedrock depth <20" AWC <2" to 40"	1.00 1.00 1.00
930: Bitcreek-----	40	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.22	Limitations Slopes >15%	1.00
Shimmon-----	25	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Dusty Slopes 25-40%	0.50 0.22	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 0.99 0.27
Balhud-----	15	Limitations K-factor >.35; slopes >8% Slopes >25% Dusty	1.00 1.00 0.50	Limitations Dusty Slopes 25-40%	0.50 0.22	Limitations Bedrock depth <20" AWC <2" to 40" Slopes >15%	1.00 1.00 1.00
932: Bitcreek-----	40	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
Shimmon-----	25	Limitations Slopes >25% Dusty	1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Slopes >15% Bedrock depth <20" AWC 2-4" to 40"	1.00 0.99 0.27

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
932: Balhud-----	20	Limitations Slopes >25% K-factor >.35; slopes >8% Dusty	1.00 1.00 0.50	Limitations Slopes >40% Dusty	1.00 0.50	Limitations Bedrock depth <20" Slopes >15% AWC <2" to 40"	1.00 1.00 1.00
940: Bitcreek-----	90	No limitations		No limitations		No Limitations	
950: Pleito-----	40	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.22	Limitations Slopes >15% AWC 2-4" to 40"	1.00 0.40
Ballinger-----	25	Limitations Surface clay >= 40% Slopes >25%	1.00 1.00	Limitations Surface clay >= 40% Slopes 25-40%	1.00 0.22	Limitations Slopes >15% Surface EC >8 mmhos/cm Clay in surface >= 40%	1.00 1.00 1.00
Balhud-----	20	Limitations K-factor >.35; slopes >8% Slopes >25% Dusty	1.00 1.00 0.50	Limitations Dusty Slopes 25-40%	0.50 0.22	Limitations Bedrock depth <20" Slopes >15% AWC <2" to 40"	1.00 1.00 1.00
951: Bitcreek-----	40	Limitations Slopes 15-25%	0.08	No limitations		Limitations Slopes >15%	1.00
Balhud-----	30	Limitations K-factor >.35; slopes >8% Dusty	1.00 0.50	Limitations Dusty	0.50	Limitations Bedrock depth <20" AWC <2" to 40" Slopes >15%	1.00 1.00 1.00
Ballinger-----	15	Limitations Surface clay >= 40%	1.00	Limitations Surface clay >= 40%	1.00	Limitations Surface EC >8 mmhos/cm Clay in surface >= 40% Slopes >15%	1.00 1.00 1.00
954: Typic Haploxeralfs, fine-	50	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.94	Limitations Slopes >15% Bedrock depth 20-40" AWC 2-4" to 40"	1.00 0.90 0.73

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Lawns, landscaping, and golf fairways	
		Limitations	Value	Limitations	Value	Limitations	Value
954: Haploxerolls, coarse- loamy-----	30	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC <2" to 40" Bedrock depth 20-40"	1.00 1.00 0.16
955: Calcic Haploxerepts-----	30	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15%	1.00
Xerorthents, shallow----	25	Limitations Slopes >25%	1.00	Limitations Slopes >40%	1.00	Limitations Slopes >15% AWC <2" to 40" Bedrock depth <20"	1.00 1.00 1.00
Badlands-----	20	Not rated		Not rated		Not rated	
970: Harrisranch-----	50	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.22	Limitations Slopes >15%	1.00
Bitcreek-----	35	Limitations Slopes >25%	1.00	Limitations Slopes 25-40%	0.22	Limitations Slopes >15%	1.00
980: Area not surveyed, access denied-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

The interpretation for paths and trails evaluates the following soil properties and characteristics: flooding; ponding; wetness; slope; fragments less than, equal to, or greater than 3 inches in size; content of clay and sand in surface layer; surface rock fragments greater than or equal to 10 inches in size; Unified classes for a high content of organic matter (PT, OL, and OH); soil dustiness; and hazard of water erosion.

The interpretation for off-road motorcycle trails evaluates the following soil properties and characteristics: flooding; ponding; wetness; slope; soil dustiness; fragments less than, equal to, or greater than 3 inches in size; content of sand or clay in the surface layer; and Unified classes for a high content of organic matter (PT, OL, and OH).

The interpretation for lawns, landscaping, and golf fairways evaluates the following soil properties and characteristics: flooding; ponding; wetness; slope; depth to bedrock; depth to a cemented pan; fragments greater than, equal to, or less than 3 inches in size; Unified classes for a high content of organic matter (PT, OL, and OH); soil dustiness; content of sand or clay in the surface layer; surface rock fragments greater than or equal to 10 inches in size; pH; salinity (EC); sodium content (SAR); calcium carbonates; and sulfur content.

Table 11a.--Building Site Development (Part 1)

[The information in this table is based on interpretations developed by the Pacific Southwest MLRA Office. The information indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The rating is based on the limitation with the highest value. Only the three highest-value limitations are listed. There may be more limitations. Fine-earth fractions and coarse fragments are reported on the basis of weight. An explanation of the rating criteria and of the abbreviations used in describing the limitations is given at the end of the table]

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
101: Bakersfield, drained-----	80	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
102: Bakersfield, partially drained-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Saturation at 2.5-6'	1.00 0.16	Limitations Flooding >= rare	1.00
110: Buttonwillow, partially drained-----	75	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Saturation at 2.5-6'	1.00 0.16	Limitations Flooding >= rare	1.00
120: Granoso-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
121: Granoso-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Slopes 4-8%	1.00 0.02
122: Granoso, loamy substratum-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
123: Granoso-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
124: Granoso-----	90	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
130: Cerini-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
131: Calflax-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
132: Cerini-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
133: Calflax-----	85	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78
134: Cerini-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
140: Copus silty clay, partially drained-----	85	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00	Limitations Flooding >= rare Shrink-swell (LEP >6) Saturation at 2.5-6'	1.00 1.00 0.15	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00
141: Copus clay, partially drained-----	95	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00	Limitations Flooding >= rare Shrink-swell (LEP >6) Saturation at 2.5-6'	1.00 1.00 0.15	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00
150: Excelsior-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
151: Excelsior, saline-sodic-	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
152: Excelsior-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00

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Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
153: Tupman-----	80	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
154: Tupman-----	70	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
Urban land-----	20	Not rated		Not rated		Not rated	
160: Fages-----	80	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00	Limitations Flooding >= rare Shrink-swell (LEP >6) Saturation at 2.5-6'	1.00 1.00 0.16	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00
179: Padres-----	70	No limitations		No limitations		No limitations	
180: Garces-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
190: Guijarral-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
191: Guijarral-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Slopes 4-8%	1.00 0.02
192: Guijarral-----	45	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
Klipstein-----	45	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
193: Guijarral-----	85	No limitations		No limitations		No limitations	
195: Guijarral, extremely gravelly substratum----	60	No limitations		No limitations		Limitations Slopes 4-8%	0.74

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Soil Survey of Kern County, California, Southwest Part

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
195: Guijarral-----	30	No limitations		No limitations		Limitations Slopes 4-8%	0.74
197: Klipstein-----	60	Limitations Flooding >= rare Slopes 8-15%	1.00 0.16	Limitations Flooding >= rare Slopes 8-15%	1.00 0.16	Limitations Slopes >8% Flooding >= rare	1.00 1.00
Guijarral-----	25	Limitations Flooding >= rare Slopes 8-15%	1.00 0.16	Limitations Flooding >= rare Slopes 8-15%	1.00 0.16	Limitations Slopes >8% Flooding >= rare	1.00 1.00
200: Hesperia-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
201: Hesperia-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
210: Kimberlina-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
211: Kimberlina-----	80	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
212: Kimberlina, saline-sodic	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
214: Kimberlina-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
215: Kimberlina-----	85	No limitations		No limitations		Limitations Slopes 4-8%	0.74
216: Kimberlina, occasionally flooded-----	50	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
216: Granoso, occasionally flooded-----	35	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
217: Kimberlina-----	50	No limitations		No limitations		No limitations	
Urban land-----	35	Not rated		Not rated		Not rated	
219: Xerorthents-----	50	Limitations Slopes >15% Bedrock (hard) at 20-40"	1.00 0.79	Limitations Slopes >15% Bedrock (hard) at <40"	1.00 1.00	Limitations Slopes >8% Bedrock (hard) at 20-40"	1.00 0.79
Badlands-----	35	Not rated		Not rated		Not rated	
220: Lokern, drained-----	85	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00
221: Lokern, partially drained-----	85	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00	Limitations Flooding >= rare Shrink-swell (LEP >6) Saturation at 2.5-6'	1.00 1.00 0.35	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00
230: Milagro-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
231: Milagro-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
240: Millox, partially drained-----	85	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00	Limitations Flooding >= rare Shrink-swell (LEP >6) Saturation at 2.5-6'	1.00 1.00 0.03	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00

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Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
241: Millox, partially drained, nonsaline-----	85	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00	Limitations Flooding >= rare Shrink-swell (LEP >6) Saturation at 2.5-6'	1.00 1.00 0.03	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00
242: Millox, partially drained-----	55	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00	Limitations Flooding >= rare Shrink-swell (LEP >6) Saturation at 2.5-6'	1.00 1.00 0.03	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00
Tennco-----	35	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
243: Millox, partially drained-----	50	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00	Limitations Flooding >= rare Shrink-swell (LEP >6) Saturation at 2.5-6'	1.00 1.00 0.03	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00
Zalvidea, partially drained-----	35	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Saturation at 2.5-6'	1.00 0.16	Limitations Flooding >= rare	1.00
246: Whitewolf-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
250: Oldriver-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00	Limitations Flooding >= rare	1.00
251: Oldriver, partially drained, sodic-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Shrink-swell (LEP >6)	1.00 1.00	Limitations Flooding >= rare	1.00

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
260: Panoche-----	85	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78
270: Pits-----	50	Not rated		Not rated		Not rated	
Dumps-----	50	Not rated		Not rated		Not rated	
280: Premier-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
281: Premier-----	85	No limitations		No limitations		Limitations Slopes 4-8%	0.02
290: Riverwash-----	85	Not rated		Not rated		Not rated	
300: Tennco-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
310: Vineland, drained-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
312: Vineland, drained-----	50	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
Bakersfield, drained-----	40	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
320: Wasco-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
330: Cuyama-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
331: Cuyama-----	85	Limitations Slopes 8-15%	0.16	Limitations Slopes 8-15%	0.16	Limitations Slopes >8%	1.00

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
332: Cuyama-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
340: Weedpatch-----	85	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78
350: Posochanet, saline-sodic	85	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78
351: Posochanet, saline-sodic	75	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78
352: Posochanet-----	70	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78
Posochanet, partially reclaimed-----	20	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78
360: Wheelridge-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
370: Whitewolf-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
371: Whitewolf-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
380: Zalvidea, partially drained-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Saturation at 2.5-6'	1.00 0.16	Limitations Flooding >= rare	1.00

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
381: Zalvidea, partially drained-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Saturation at 2.5-6'	1.00 0.16	Limitations Flooding >= rare	1.00
389: Xerofluvents-----	30	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Slopes 4-8%	1.00 0.26
Haploxerepts-----	30	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Slopes 4-8%	1.00 0.26
Riverwash-----	15	Not rated		Not rated		Not rated	
390: Pleito-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
391: Pleito-----	80	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
392: Pleito-----	85	No limitations		No limitations		Limitations Slopes 4-8%	0.74
393: Pleito-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
394: Pleito-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Xeric Torriorthents, very gravelly-----	40	Limitations Slopes >15% Bedrock (hard) at 20-40" Fragments (>3") 25-50%	1.00 0.79 0.03	Limitations Slopes >15% Bedrock (hard) at <40" Fragments (>3") 25-50%	1.00 1.00 0.03	Limitations Slopes >8% Bedrock (hard) at 20-40" Fragments (>3") 25-50%	1.00 0.79 0.03
395: Pleito-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00

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Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
395: Emidio-----	20	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Loslobos-----	15	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
396: Pleito-----	60	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Loslobos-----	25	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
398: Calcic Haploxerepts-----	30	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Calcic Pachic Argixerolls, fine-----	25	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 0.99	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP >6)	1.00 0.99
Xerorthents, shallow----	20	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
400: Loslobos-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Xeric Torriorthents, very gravelly-----	25	Limitations Slopes >15% Bedrock (hard) at 20-40" Fragments (>3") 25-50%	1.00 0.79 0.03	Limitations Slopes >15% Bedrock (hard) at <40" Fragments (>3") 25-50%	1.00 1.00 0.03	Limitations Slopes >8% Bedrock (hard) at 20-40" Fragments (>3") 25-50%	1.00 0.79 0.03
Badlands-----	20	Not rated		Not rated		Not rated	
401: Loslobos-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
402: Loslobos-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Walong-----	30	Limitations Slopes >15% Fragments (>3") >50%	1.00 1.00	Limitations Slopes >15% Fragments (>3") >50% Bedrock (soft) at 20-40"	1.00 1.00 0.54	Limitations Slopes >8% Fragments (>3") >50%	1.00 1.00
403: Loslobos-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Calleguas-----	35	Limitations Bedrock (soft) at <20" Slopes >15% Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Bedrock (soft) at <20" Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Bedrock (soft) at <20" Slopes >8% Shrink-swell (LEP 3-6)	1.00 1.00 0.78
404: Loslobos, moist-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
430: Littlesignal-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Cochora-----	40	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
431: Littlesignal-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Cochora-----	35	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
432: Littlesignal-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Badlands-----	25	Not rated		Not rated		Not rated	
Cochora-----	20	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00

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Soil Survey of Kern County, California, Southwest Part

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
440: Elkhills-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Pyxo-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.46	Limitations Slopes >8%	1.00
441: Sodic Haplocambids, thick-----	60	Limitations Shrink-swell (LEP >6) Slopes >15%	1.00 1.00	Limitations Shrink-swell (LEP >6) Slopes >15%	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP >6)	1.00 1.00
442: Elkhills-----	80	Limitations Slopes 8-15%	0.16	Limitations Slopes 8-15%	0.16	Limitations Slopes >8%	1.00
443: Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Badlands-----	40	Not rated		Not rated		Not rated	
444: Elkhills-----	90	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
445: Sodic Haplocambids, thick-----	45	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP >6)	1.00 1.00
Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
451: Beam-----	35	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
Panoza-----	30	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.90	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.01

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
451: Hillbrick-----	15	Limitations Slopes >15% Bedrock (hard) at <20"	1.00 1.00	Limitations Slopes >15% Bedrock (hard) at <40"	1.00 1.00	Limitations Slopes >8% Bedrock (hard) at <20"	1.00 1.00
460: Geghus-----	50	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Tecuya-----	30	Limitations Slopes 8-15% Fragments (>3") 25-50%	0.63 0.14	Limitations Slopes 8-15% Fragments (>3") 25-50%	0.63 0.14	Limitations Slopes >8% Fragments (>3") 25-50%	1.00 0.14
461: Geghus-----	50	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Tecuya-----	35	Limitations Slopes >15% Fragments (>3") 25-50%	1.00 0.14	Limitations Slopes >15% Fragments (>3") 25-50%	1.00 0.14	Limitations Slopes >8% Fragments (>3") 25-50%	1.00 0.14
462: Geghus-----	55	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Bedrock (hard) at 40-60" Shrink-swell (LEP 3-6)	1.00 0.96 0.78	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 1.00 0.78
Xeric Torriorthents, very gravelly-----	30	Limitations Slopes >15% Bedrock (hard) at 20-40" Fragments (>3") 25-50%	1.00 0.79 0.05	Limitations Slopes >15% Bedrock (hard) at <40" Fragments (>3") 25-50%	1.00 1.00 0.05	Limitations Slopes >8% Bedrock (hard) at 20-40" Fragments (>3") 25-50%	1.00 1.00 0.05
470: Pyxo-----	55	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.01	Limitations Slopes >8%	1.00
Cochora-----	30	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
471:							
Pyxo-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.64	Limitations Slopes >8%	1.00
Cochora-----	25	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
Badlands-----	15	Not rated		Not rated		Not rated	
472:							
Pyxo-----	30	Limitations Slopes 8-15%	0.16	Limitations Bedrock (soft) at 20-40" Slopes 8-15%	0.46 0.16	Limitations Slopes >8%	1.00
Kimberlina-----	30	Limitations Slopes 8-15%	0.16	Limitations Slopes 8-15%	0.16	Limitations Slopes >8%	1.00
Cochora-----	25	Limitations Bedrock (soft) at <20" Slopes 8-15%	1.00 0.16	Limitations Bedrock (soft) at <20" Slopes 8-15%	1.00 0.16	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
480:							
Pyxo, dry-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.46	Limitations Slopes >8%	1.00
Elkhills-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
490:							
Padres-----	65	No limitations		No limitations		Limitations Slopes 4-8%	0.50
500:							
Bitcreek-----	85	Limitations Shrink-swell (LEP 3-6)	0.78	Limitations Shrink-swell (LEP >6)	1.00	Limitations Shrink-swell (LEP 3-6)	0.78
510:							
Beam-----	35	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
510: Panoza-----	30	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.90	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.01
Hillbrick-----	15	Limitations Slopes >15% Bedrock (hard) at <20"	1.00 1.00	Limitations Slopes >15% Bedrock (hard) at <40"	1.00 1.00	Limitations Slopes >8% Bedrock (hard) at <20"	1.00 1.00
511: Beam-----	35	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
Panoza-----	30	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.90	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.01
Hillbrick-----	15	Limitations Slopes >15% Bedrock (hard) at <20"	1.00 1.00	Limitations Slopes >15% Bedrock (hard) at <40"	1.00 1.00	Limitations Slopes >8% Bedrock (hard) at <20"	1.00 1.00
515: Zonap-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.79	Limitations Slopes >8%	1.00
Badlands-----	20	Not rated		Not rated		Not rated	
Beam-----	15	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
516: Zonap-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.79	Limitations Slopes >8%	1.00
Beam-----	40	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
530: Tehachapi-----	80	No limitations		No limitations		Limitations	

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
531: Tehachapi-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
540: Xeric Torriorthents-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (hard) at 40-60"	1.00 0.93	Limitations Slopes >8%	1.00
Badlands-----	25	Not rated		Not rated		Not rated	
550: Elkhills-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Welport-----	45	Limitations Thin pan <= 20" Slopes 8-15%	1.00 0.63	Limitations Pan (thin) <20" depth Slopes 8-15%	1.00 0.63	Limitations Slopes >8% Thin pan <= 20"	1.00 1.00
560: Laval-----	44	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
Pleitito-----	44	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
561: Laval-----	45	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare Slopes 4-8%	1.00 0.26
Pleitito-----	45	Limitations Flooding >= rare Slopes 8-15%	1.00 0.16	Limitations Flooding >= rare Slopes 8-15%	1.00 0.16	Limitations Slopes >8% Flooding >= rare	1.00 1.00
570: Hillbrick-----	65	Limitations Slopes >15% Bedrock (hard) at <20"	1.00 1.00	Limitations Slopes >15% Bedrock (hard) at <40"	1.00 1.00	Limitations Slopes >8% Bedrock (hard) at <20"	1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
571:							
Hillbrick-----	65	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
		Bedrock (hard) at <20"	1.00	Bedrock (hard) at <40"	1.00	Bedrock (hard) at <20"	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
580:							
Reward-----	45	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
				Shrink-swell (LEP 3-6)	0.50		
Hillbrick-----	45	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
		Bedrock (hard) at <20"	1.00	Bedrock (hard) at <40"	1.00	Bedrock (hard) at <20"	1.00
581:							
Reward-----	85	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
				Shrink-swell (LEP 3-6)	0.50		
583:							
Bellyspring-----	35	Limitations		Limitations		Limitations	
		Slopes 8-15%	0.63	Slopes 8-15%	0.63	Slopes >8%	1.00
				Bedrock (soft) at 20-40"	0.01		
Panoza-----	25	Limitations		Limitations		Limitations	
		Slopes 8-15%	0.63	Bedrock (soft) at 20-40"	0.90	Slopes >8%	1.00
		Shrink-swell (LEP 3-6)	0.01	Slopes 8-15%	0.63	Shrink-swell (LEP 3-6)	0.01
584:							
Bellyspring-----	35	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
				Bedrock (soft) at 20-40"	0.01		
Panoza-----	30	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
		Shrink-swell (LEP 3-6)	0.01	Bedrock (soft) at 20-40"	0.90	Shrink-swell (LEP 3-6)	0.01
585:							
Bellyspring-----	35	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
				Bedrock (soft) at 20-40"	0.01		

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
585: Panoza-----	30	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.90	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.01
586: Panoza-----	40	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.90	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.01
Beam-----	30	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
587: Panoza-----	40	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.90	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.01
Beam-----	30	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
588: Panoza-----	40	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.90	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.01
Beam-----	30	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
590: Gorman-----	35	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Typic Xerorthents, mesic	30	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.15	Limitations Slopes >8%	1.00
Xerorthents, shallow----	20	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
591:							
Geghus-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
		Shrink-swell (LEP 3-6)	0.78	Shrink-swell (LEP 3-6)	0.78	Shrink-swell (LEP 3-6)	0.78
Selby-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
		Bedrock (hard) at 20-40"	0.84	Bedrock (hard) at <40"	1.00	Bedrock (hard) at 20-40"	0.84
		Fragments (>3") 25-50%	0.69	Fragments (>3") 25-50%	0.69	Fragments (>3") 25-50%	0.69
600:							
Positas-----	45	Limitations		Limitations		Limitations	
		Shrink-swell (LEP >6)	1.00	Shrink-swell (LEP >6)	1.00	Shrink-swell (LEP >6)	1.00
						Slopes 4-8%	0.50
Bitcreek-----	35	Limitations		Limitations		Limitations	
		Shrink-swell (LEP 3-6)	0.78	Shrink-swell (LEP >6)	1.00	Shrink-swell (LEP 3-6)	0.78
						Slopes 4-8%	0.50
610:							
Balcom-----	55	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
				Bedrock (soft) at 20-40"	0.20		
Rock outcrop-----	20	Not rated		Not rated		Not rated	
620:							
Typic Xerorthents, mesic	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
				Bedrock (soft) at 20-40"	0.15		
Haploxerepts-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
Xerorthents, sandy-----	18	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
640:							
Bitcreek-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
		Shrink-swell (LEP 3-6)	0.78	Shrink-swell (LEP >6)	1.00	Shrink-swell (LEP 3-6)	0.78
Dibble-----	30	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
		Shrink-swell (LEP 3-6)	0.78	Shrink-swell (LEP 3-6)	0.78	Shrink-swell (LEP 3-6)	0.78
				Bedrock (soft) at 20-40"	0.01		

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
640: Eaglerest-----	15	Limitations Bedrock (soft) at <20" Slopes >15% Shrink-swell (LEP 3-6)	1.00 1.00 0.01	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8% Shrink-swell (LEP 3-6)	1.00 1.00 0.01
650: Lithic Argixerolls-----	50	Limitations Slopes >15% Bedrock (hard) at <20" Fragments (>3") 25-50%	1.00 1.00 0.86	Limitations Slopes >15% Bedrock (hard) at <40" Fragments (>3") 25-50%	1.00 1.00 0.86	Limitations Slopes >8% Bedrock (hard) at <20" Fragments (>3") 25-50%	1.00 1.00 0.86
Lithic Xerorthents, mesic-----	25	Limitations Slopes >15% Bedrock (hard) at <20" Fragments (>3") >50%	1.00 1.00 1.00	Limitations Slopes >15% Bedrock (hard) at <40" Fragments (>3") >50%	1.00 1.00 1.00	Limitations Slopes >8% Bedrock (hard) at <20" Fragments (>3") >50%	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
660: Elkhills-----	70	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Legray-----	20	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
661: Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Legray-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
670: Harrisranch-----	60	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
680: Milham-----	90	Limitations Shrink-swell (LEP 3-6)	0.78	No limitations		Limitations Shrink-swell (LEP 3-6)	0.78

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Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
690: Dibble-----	45	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6) Bedrock (soft) at 20-40"	1.00 0.78 0.01	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Geghus-----	40	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
700: Xerolls, loamy-skeletal-	55	Limitations Slopes >15% Fragments (>3") 25-50%	1.00 0.29	Limitations Slopes >15% Fragments (>3") 25-50%	1.00 0.29	Limitations Slopes >8% Fragments (>3") 25-50%	1.00 0.29
Los Gatos-----	30	Limitations Slopes >15% Shrink-swell (LEP 3-6) Bedrock (hard) at 20-40"	1.00 0.78 0.54	Limitations Slopes >15% Bedrock (hard) at <40" Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >8% Shrink-swell (LEP 3-6) Bedrock (hard) at 20-40"	1.00 0.78 0.54
720: Friant-----	50	Limitations Slopes >15% Bedrock (hard) at <20"	1.00 1.00	Limitations Slopes >15% Bedrock (hard) at <40"	1.00 1.00	Limitations Slopes >8% Bedrock (hard) at <20"	1.00 1.00
Geghus-----	20	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Lithic Xerorthents, thermic-----	20	Limitations Slopes >15% Bedrock (hard) at <20"	1.00 1.00	Limitations Slopes >15% Bedrock (hard) at <40"	1.00 1.00	Limitations Slopes >8% Bedrock (hard) at <20"	1.00 1.00
724: Elkhills-----	90	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
725: Sodic Haplocambids, thick-----	85	Limitations Shrink-swell (LEP >6) Slopes 8-15%	1.00 0.63	Limitations Shrink-swell (LEP >6) Slopes 8-15%	1.00 0.63	Limitations Slopes >8% Shrink-swell (LEP >6)	1.00 1.00

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
726: Sodic Haplocambids, thick-----	90	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP >6)	1.00 1.00
727: Sodic Haplocambids, thick-----	90	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP >6)	1.00 1.00
728: Torriorthents, very thin	85	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6) Bedrock (soft) at 20-40"	1.00 0.78 0.20	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
729: Sodic Haplocambids, thick-----	40	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP >6)	1.00 1.00
Torriorthents, thin-----	30	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Torriorthents, very thin, eroded-----	15	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6) Bedrock (soft) at 20-40"	1.00 0.78 0.20	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
730: Haplocambids, thick-----	50	Limitations Slopes 8-15%	0.63	Limitations Slopes 8-15%	0.63	Limitations Slopes >8%	1.00
Elkhills-----	30	Limitations Slopes 8-15%	0.63	Limitations Slopes 8-15%	0.63	Limitations Slopes >8%	1.00
731: Haplocambids, thick-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00

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Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
732:							
Elkhills-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Haplocambids, thick-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
733:							
Sodic Haplocambids, thick-----	50	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP >6)	1.00 1.00
Torriorthents, thin-----	35	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
734:							
Sodic Haplocambids, thick-----	40	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP >6)	1.00 1.00
Torriorthents, very thin, eroded-----	25	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6) Bedrock (soft) at 20-40"	1.00 0.78 0.20	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Elkhills-----	24	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
735:							
Sodic Haplocambids, thick-----	40	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP >6)	1.00 1.00
Elkhills-----	25	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Torriorthents, thin-----	20	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
750: Ballinger-----	85	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6) Bedrock (soft) at 20-40"	1.00 0.78 0.42	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
760: Ballinger-----	85	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6) Bedrock (soft) at 20-40"	1.00 0.78 0.42	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
780: Stutzville-----	85	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Flooding >= rare Shrink-swell (LEP 3-6)	1.00 0.78
850: Xerofluvents-----	85	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00	Limitations Flooding >= rare	1.00
860: Hawk-----	90	Limitations Flooding >= rare Slopes 8-15%	1.00 0.63	Limitations Flooding >= rare Slopes 8-15%	1.00 0.63	Limitations Slopes >8% Flooding >= rare	1.00 1.00
870: Frazier-----	80	Limitations Slopes >15% Bedrock (hard) at 20-40"	1.00 0.95	Limitations Slopes >15% Bedrock (hard) at <40"	1.00 1.00	Limitations Slopes >8% Bedrock (hard) at 20-40"	1.00 0.95
880: Chuchupate-----	90	Limitations Slopes >15% Bedrock (hard) at 20-40"	1.00 0.06	Limitations Slopes >15% Bedrock (hard) at <40"	1.00 1.00	Limitations Slopes >8% Bedrock (hard) at 20-40"	1.00 0.06
890: Gorman-----	90	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
919: Zonap-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40"	1.00 0.79	Limitations Slopes >8%	1.00

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Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
919:							
Harrisranch-----	30	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Beam-----	15	Limitations Bedrock (soft) at <20" Slopes >15%	1.00 1.00	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8%	1.00 1.00
930:							
Bitcreek-----	40	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Shrink-swell (LEP >6) Slopes >15%	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Shimmon-----	25	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Bedrock (soft) at <20" Shrink-swell (LEP 3-6)	1.00 0.99 0.78	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Balhud-----	15	Limitations Bedrock (soft) at <20" Bedrock (hard) at <20" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Bedrock (soft) at <20" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8% Bedrock (hard) at <20"	1.00 1.00 1.00
932:							
Bitcreek-----	40	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Shrink-swell (LEP >6)	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Shimmon-----	25	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Bedrock (soft) at <20" Shrink-swell (LEP 3-6)	1.00 0.99 0.78	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
Balhud-----	20	Limitations Bedrock (soft) at <20" Slopes >15% Bedrock (hard) at <20"	1.00 1.00 1.00	Limitations Slopes >15% Bedrock (hard) at <40" Bedrock (soft) at <20"	1.00 1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >8% Bedrock (hard) at <20"	1.00 1.00 1.00
940:							
Bitcreek-----	90	Limitations Shrink-swell (LEP 3-6)	0.78	Limitations Shrink-swell (LEP >6)	1.00	Limitations Shrink-swell (LEP 3-6) Slopes 4-8%	0.78 0.26
950:							
Pleito-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
950:							
Ballinger-----	25	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
		Shrink-swell (LEP 3-6)	0.78	Shrink-swell (LEP 3-6)	0.78	Shrink-swell (LEP 3-6)	0.78
				Bedrock (soft) at 20-40"	0.06		
Balhud-----	20	Limitations		Limitations		Limitations	
		Bedrock (soft) at <20"	1.00	Slopes >15%	1.00	Bedrock (soft) at <20"	1.00
		Slopes >15%	1.00	Bedrock (hard) at <40"	1.00	Slopes >8%	1.00
		Bedrock (hard) at <20"	1.00	Bedrock (soft) at <20"	1.00	Bedrock (hard) at <20"	1.00
951:							
Bitcreek-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Shrink-swell (LEP >6)	1.00	Slopes >8%	1.00
		Shrink-swell (LEP 3-6)	0.78	Slopes >15%	1.00	Shrink-swell (LEP 3-6)	0.78
Balhud-----	30	Limitations		Limitations		Limitations	
		Bedrock (soft) at <20"	1.00	Bedrock (hard) at <40"	1.00	Bedrock (soft) at <20"	1.00
		Bedrock (hard) at <20"	1.00	Bedrock (soft) at <20"	1.00	Slopes >8%	1.00
		Slopes >15%	1.00	Slopes >15%	1.00	Bedrock (hard) at <20"	1.00
Ballinger-----	15	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
		Shrink-swell (LEP 3-6)	0.78	Shrink-swell (LEP 3-6)	0.78	Shrink-swell (LEP 3-6)	0.78
				Bedrock (soft) at 20-40"	0.06		
954:							
Typic Haploxeralfs, fine-	50	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
		Shrink-swell (LEP 3-6)	0.78	Bedrock (soft) at 20-40"	0.90	Shrink-swell (LEP 3-6)	0.78
				Shrink-swell (LEP 3-6)	0.78		
Haploxerolls, coarse- loamy-----	30	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
		Fragments (>3") >50%	1.00	Bedrock (hard) at <40"	1.00	Fragments (>3") >50%	1.00
		Bedrock (hard) at 20-40"	0.15	Fragments (>3") >50%	1.00	Bedrock (hard) at 20-40"	0.15
955:							
Calcic Haploxerepts----	30	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00	Slopes >8%	1.00
		Shrink-swell (LEP 3-6)	0.78	Shrink-swell (LEP 3-6)	0.78	Shrink-swell (LEP 3-6)	0.78
Xerorthents, shallow----	25	Limitations		Limitations		Limitations	
		Bedrock (soft) at <20"	1.00	Slopes >15%	1.00	Bedrock (soft) at <20"	1.00
		Slopes >15%	1.00	Bedrock (soft) at <20"	1.00	Slopes >8%	1.00

Table 11a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Limitations	Value	Limitations	Value	Limitations	Value
955: Badlands-----	20	Not rated		Not rated		Not rated	
970: Harrisranch-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >8%	1.00
Bitcreek-----	35	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Shrink-swell (LEP >6) Slopes >15%	1.00 1.00	Limitations Slopes >8% Shrink-swell (LEP 3-6)	1.00 0.78
980: Area not surveyed, access denied-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

The interpretation for dwellings without basements evaluates the following soil properties and characteristics: flooding, ponding, wetness, slope, subsidence of organic soils, shrink-swell potential expressed as linear extensibility percent (LEP), organic Unified classes for low soil strength (PT, OL, or OH), depth to hard or soft bedrock, depth to a thick or thin cemented pan, and rock fragments greater than 3 inches in size.

The interpretation for dwellings with basements evaluates the following soil properties and characteristics: flooding, ponding, wetness, slope, subsidence of organic soils, shrink-swell potential expressed as linear extensibility percent (LEP), organic Unified classes for low strength (PT, OL, or OH), depth to hard or soft bedrock, depth to a thick or thin cemented pan, and rock fragments greater than 3 inches in size.

The interpretation for small commercial buildings evaluates the following soil properties and characteristics: flooding, ponding, wetness, slope, subsidence of organic soils, shrink-swell potential expressed as linear extensibility percent (LEP), depth to hard or soft bedrock, depth to a thick or thin cemented pan, and fragments greater than 3 inches in size.

Table 11b.--Building Site Development (Part 2)

[The information in this table is based on interpretations developed by the Pacific Southwest MLRA Office. The information indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The rating is based on the limitation with the highest value. Only the three highest-value limitations are listed. There may be more limitations. Fine-earth fractions and coarse fragments are reported on the basis of weight. An explanation of the rating criteria and of the abbreviations used in describing the limitations is given at the end of the table]

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
101: Bakersfield, drained-----	80	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
102: Bakersfield, partially drained----	85	Limitations Flooding = rare	0.50	Limitations Caving potential Saturation at 2.5-6'	1.00 0.16
110: Buttonwillow, partially drained---	75	Limitations AASHTO GI >8 (low soil strength) Flooding = rare	1.00 0.50	Limitations Caving potential Clay 40-60% Saturation at 2.5-6'	1.00 0.32 0.16
120: Granoso-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
121: Granoso-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
122: Granoso, loamy substratum-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
123: Granoso-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
124: Granoso-----	90	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
130: Cerini-----	85	Limitations Flooding = rare	0.50	Limitations Low caving potential	0.10

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
131: Calflax-----	85	Limitations AASHTO GI >8 (low soil strength) Flooding = rare	1.00 0.50	Limitations Low caving potential	0.10
132: Cerini-----	85	Limitations Flooding = rare	0.50	Limitations Low caving potential	0.10
133: Calflax-----	85	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6) Flooding = rare	1.00 0.78 0.50	Limitations Low caving potential	0.10
134: Cerini-----	85	Limitations Flooding = rare	0.50	Limitations Low caving potential	0.10
140: Copus silty clay, partially drained-----	85	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP >6) Flooding = rare	1.00 1.00 0.50	Limitations Caving potential Clay > 60% Saturation at 2.5-6'	1.00 1.00 0.15
141: Copus clay, partially drained----	95	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP >6) Flooding = rare	1.00 1.00 0.50	Limitations Caving potential Clay > 60% Saturation at 2.5-6'	1.00 1.00 0.15
150: Excelsior-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
151: Excelsior, saline-sodic-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
152: Excelsior-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
153: Tupman-----	80	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
154: Tupman-----	70	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
Urban land-----	20	Not rated		Not rated	
160: Fages-----	80	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP >6) Flooding = rare	1.00 1.00 0.50	Limitations Clay 40-60% Saturation at 2.5-6' Low caving potential	0.58 0.16 0.10
179: Padres-----	70	No limitations		Limitations Caving potential	1.00
180: Garces-----	85	Limitations Flooding = rare	0.50	Limitations Low caving potential	0.10
190: Guijarral-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
191: Guijarral-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
192: Guijarral-----	45	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
Klipstein-----	45	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
193: Guijarral-----	85	No limitations		Limitations Caving potential	1.00
195: Guijarral, extremely gravelly substratum-----	60	No limitations		Limitations Caving potential	1.00
Guijarral-----	30	No limitations		Limitations Caving potential	1.00

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
197:					
Klipstein-----	60	Limitations		Limitations	
		Flooding = rare	0.50	Caving potential	1.00
		Slopes 8-15%	0.16	Slopes 8-15%	0.16
Guijarral-----	25	Limitations		Limitations	
		Flooding = rare	0.50	Caving potential	1.00
		Slopes 8-15%	0.16	Slopes 8-15%	0.16
200:					
Hesperia-----	85	Limitations		Limitations	
		Flooding = rare	0.50	Low caving potential	0.10
201:					
Hesperia-----	85	Limitations		Limitations	
		Flooding = rare	0.50	Low caving potential	0.10
210:					
Kimberlina-----	85	Limitations		Limitations	
		Flooding = rare	0.50	Low caving potential	0.10
211:					
Kimberlina-----	80	Limitations		Limitations	
		Flooding = rare	0.50	Low caving potential	0.10
212:					
Kimberlina, saline-sodic-----	85	Limitations		Limitations	
		Flooding = rare	0.50	Low caving potential	0.10
214:					
Kimberlina-----	85	Limitations		Limitations	
		Flooding = rare	0.50	Caving potential	1.00
215:					
Kimberlina-----	85	No limitations		Limitations	
				Caving potential	1.00
216:					
Kimberlina, occasionally flooded---	50	Limitations		Limitations	
		Flooding >= occasional	1.00	Frequent or occasional flooding	0.50
				Low caving potential	0.10
Granoso, occasionally flooded-----	35	Limitations		Limitations	
		Flooding >= occasional	1.00	Caving potential	1.00
				Frequent or occasional flooding	0.50

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
217: Kimberlina-----	50	No limitations		Limitations Low caving potential	0.10
Urban land-----	35	Not rated		Not rated	
219: Xerorthents-----	50	Limitations Slopes >15% Bedrock (hard) at 20-40"	1.00 0.79	Limitations Bedrock (hard) at <40" Slopes >15% Low caving potential	1.00 1.00 0.10
Badlands-----	35	Not rated		Not rated	
220: Lokern, drained-----	85	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP >6) Flooding = rare	1.00 1.00 0.50	Limitations Clay 40-60% Low caving potential	0.18 0.10
221: Lokern, partially drained-----	85	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP >6) Flooding = rare	1.00 1.00 0.50	Limitations Saturation at 2.5-6' Clay 40-60% Low caving potential	0.35 0.18 0.10
230: Milagro-----	85	Limitations Flooding = rare	0.50	Limitations Low caving potential	0.10
231: Milagro-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
240: Millox, partially drained-----	85	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP >6) Flooding = rare	1.00 1.00 0.50	Limitations Caving potential Clay 40-60% Saturation at 2.5-6'	1.00 0.24 0.03
241: Millox, partially drained, nonsaline-----	85	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP >6) Flooding = rare	1.00 1.00 0.50	Limitations Caving potential Clay 40-60% Saturation at 2.5-6'	1.00 0.24 0.03

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
242: Millox, partially drained-----	55	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP >6) Flooding = rare	1.00 1.00 0.50	Limitations Caving potential Clay 40-60% Saturation at 2.5-6'	1.00 0.24 0.03
Tennco-----	35	Limitations Flooding = rare	0.50	Limitations Low caving potential	0.10
243: Millox, partially drained-----	50	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP >6) Flooding = rare	1.00 1.00 0.50	Limitations Caving potential Clay 40-60% Saturation at 2.5-6'	1.00 0.24 0.03
Zalvidea, partially drained-----	35	Limitations Flooding = rare	0.50	Limitations Caving potential Saturation at 2.5-6'	1.00 0.16
246: Whitewolf-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
250: Oldriver-----	85	Limitations Flooding = rare	0.50	Limitations Clay 40-60% Low caving potential	0.32 0.10
251: Oldriver, partially drained, sodic	85	Limitations Flooding = rare	0.50	Limitations Clay 40-60% Low caving potential	0.32 0.10
260: Panoche-----	85	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6) Flooding = rare	1.00 0.78 0.50	Limitations Low caving potential	0.10
270: Pits-----	50	Not rated		Not rated	
Dumps-----	50	Not rated		Not rated	
280: Premier-----	85	Limitations Flooding = rare	0.50	Limitations Low caving potential	0.10

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
281: Premier-----	85	No limitations		Limitations Low caving potential	0.10
290: Riverwash-----	85	Not rated		Not rated	
300: Tennco-----	85	Limitations Flooding = rare	0.50	Limitations Low caving potential	0.10
310: Vineland, drained-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
312: Vineland, drained-----	50	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
Bakersfield, drained-----	40	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
320: Wasco-----	85	Limitations Flooding = rare	0.50	Limitations Low caving potential	0.10
330: Cuyama-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
331: Cuyama-----	85	Limitations Slopes 8-15%	0.16	Limitations Caving potential Slopes 8-15%	1.00 0.16
332: Cuyama-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
340: Weedpatch-----	85	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6) Flooding = rare	1.00 0.78 0.50	Limitations Low caving potential	0.10

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
350: Posochanet, saline-sodic-----	85	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6) Flooding = rare	1.00 0.78 0.50	Limitations Clay 40-60% Low caving potential	0.12 0.10
351: Posochanet, saline-sodic-----	75	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6) Flooding = rare	1.00 0.78 0.50	Limitations Clay 40-60% Low caving potential	0.12 0.10
352: Posochanet-----	70	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6) Flooding = rare	1.00 0.78 0.50	Limitations Clay 40-60% Low caving potential	0.12 0.10
Posochanet, partially reclaimed---	20	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6) Flooding = rare	1.00 0.78 0.50	Limitations Clay 40-60% Low caving potential	0.12 0.10
360: Wheelridge-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
370: Whitewolf-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
371: Whitewolf-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
380: Zalvidea, partially drained-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential Saturation at 2.5-6'	1.00 0.16
381: Zalvidea, partially drained-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential Saturation at 2.5-6'	1.00 0.16

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
389: Xerofluvents-----	30	Limitations Flooding >= occasional	1.00	Limitations Caving potential Frequent or occasional flooding	1.00 0.50
Haploxerepts-----	30	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
Riverwash-----	15	Not rated		Not rated	
390: Pleito-----	85	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
391: Pleito-----	80	Limitations Flooding = rare	0.50	Limitations Caving potential	1.00
392: Pleito-----	85	No limitations		Limitations Caving potential	1.00
393: Pleito-----	85	Limitations Slopes >15%	1.00	Limitations Caving potential Slopes >15%	1.00 1.00
394: Pleito-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
Xeric Torriorthents, very gravelly	40	Limitations Slopes >15% Bedrock (hard) at 20-40" Fragments (>3") 25-50%	1.00 0.79 0.03	Limitations Bedrock (hard) at <40" Slopes >15% Caving potential	1.00 1.00 1.00
395: Pleito-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
Emidio-----	20	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Low caving potential	1.00 0.10

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
395: Loslobos-----	15	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
396: Pleito-----	60	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
Loslobos-----	25	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
398: Calcic Haploxerepts-----	30	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Low caving potential	1.00 0.10
Calcic Pachic Argixerolls, fine----	25	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP >6)	1.00 1.00 0.99	Limitations Slopes >15% Low caving potential Clay 40-60%	1.00 0.10 0.08
Xerorthents, shallow-----	20	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
400: Loslobos-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
Xeric Torriorthents, very gravelly	25	Limitations Slopes >15% Bedrock (hard) at 20-40" Fragments (>3") 25-50%	1.00 0.79 0.03	Limitations Bedrock (hard) at <40" Slopes >15% Caving potential	1.00 1.00 1.00
Badlands-----	20	Not rated		Not rated	
401: Loslobos-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
402: Loslobos-----	40	Limitations Slopes >15%	1.00	Limitations Caving potential Slopes >15%	1.00 1.00
Walong-----	30	Limitations Fragments (>3") >50% Slopes >15%	1.00 1.00	Limitations Fragments (>3") >50% Slopes >15% Bedrock (soft) at 20-40"	1.00 1.00 10.54
403: Loslobos-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
Calleguas-----	35	Limitations Slopes >15% Bedrock (soft) at <20" AASHTO GI >8 (low soil strength)	1.00 1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 10.10
404: Loslobos, moist-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
430: Littlesignal-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 10.10
Cochora-----	40	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 10.10
431: Littlesignal-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 10.10
Cochora-----	35	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 10.10

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Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
432: Littlesignal-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
Badlands-----	25	Not rated		Not rated	
Cochora-----	20	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
440: Elkhills-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
Pyxo-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.46 0.10
441: Sodic Haplocambids, thick-----	60	Limitations Shrink-swell (LEP >6) AASHTO GI >8 (low soil strength) Slopes >15%	1.00 1.00 1.00	Limitations Slopes >15% Low caving potential Clay 40-60%	1.00 0.10 0.02
442: Elkhills-----	80	Limitations Slopes 8-15%	0.16	Limitations Slopes 8-15% Low caving potential	0.16 0.10
443: Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
Badlands-----	40	Not rated		Not rated	
444: Elkhills-----	90	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
445: Sodic Haplocambids, thick-----	45	Limitations Slopes >15% Shrink-swell (LEP >6) AASHTO GI >8 (low soil strength)	1.00 1.00 1.00	Limitations Slopes >15% Low caving potential Clay 40-60%	1.00 0.10 0.02
Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
451: Beam-----	35	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
Panoza-----	30	Limitations Slopes >15% AASHTO GI 5-8 (soil strength) Shrink-swell (LEP 3-6)	1.00 0.78 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.90 0.10
Hillbrick-----	15	Limitations Bedrock (hard) at <20" Slopes >15%	1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >15% Low caving potential	1.00 1.00 0.10
460: Geghus-----	50	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Low caving potential	1.00 0.10
Tecuya-----	30	Limitations Slopes 8-15% Fragments (>3") 25-50%	0.63 0.14	Limitations Slopes 8-15% Fragments (>3") 25-50% Low caving potential	0.63 0.14 0.10
461: Geghus-----	50	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Low caving potential	1.00 0.10

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
461: Tecuya-----	35	Limitations Slopes >15% Fragments (>3") 25-50%	1.00 0.14	Limitations Slopes >15% Fragments (>3") 25-50% Low caving potential	1.00 0.14 0.10
462: Geghus-----	55	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Bedrock (hard) at 40-60" Low caving potential	1.00 0.96 0.10
Xeric Torriorthents, very gravelly	30	Limitations Slopes >15% Bedrock (hard) at 20-40" Fragments (>3") 25-50%	1.00 0.79 0.05	Limitations Bedrock (hard) at <40" Slopes >15% Caving potential	1.00 1.00 1.00
470: Pyxo-----	55	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential Bedrock (soft) at 20-40"	1.00 0.10 0.01
Cochora-----	30	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
471: Pyxo-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.64 0.10
Cochora-----	25	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
Badlands-----	15	Not rated		Not rated	
472: Pyxo-----	30	Limitations Slopes 8-15%	0.16	Limitations Bedrock (soft) at 20-40" Slopes 8-15% Low caving potential	0.46 0.16 0.10

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
472: Kimberlina-----	30	Limitations Slopes 8-15%	0.16	Limitations Slopes 8-15% Low caving potential	0.16 0.10
Cochora-----	25	Limitations Bedrock (soft) at <20" Slopes 8-15%	1.00 0.16	Limitations Bedrock (soft) at <20" Slopes 8-15% Low caving potential	1.00 0.16 0.10
480: Pyxo, dry-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.46 0.10
Elkhills-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
490: Padres-----	65	No limitations		Limitations Caving potential	1.00
500: Bitcreek-----	85	Limitations Shrink-swell (LEP 3-6)	0.78	Limitations Clay 40-60% Low caving potential	0.41 0.10
510: Beam-----	35	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
Panoza-----	30	Limitations Slopes >15% AASHTO GI 5-8 (soil strength) Shrink-swell (LEP 3-6)	1.00 0.78 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.90 0.10
Hillbrick-----	15	Limitations Bedrock (hard) at <20" Slopes >15%	1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >15% Low caving potential	1.00 1.00 0.10

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
511: Beam-----	35	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
Panoza-----	30	Limitations Slopes >15% AASHTO GI 5-8 (soil strength) Shrink-swell (LEP 3-6)	1.00 0.78 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.90 0.10
Hillbrick-----	15	Limitations Bedrock (hard) at <20" Slopes >15%	1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >15% Low caving potential	1.00 1.00 0.10
515: Zonap-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.79 0.10
Badlands-----	20	Not rated		Not rated	
Beam-----	15	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
516: Zonap-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.79 0.10
Beam-----	40	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
530: Tehachapi-----	80	No limitations		Limitations Low caving potential	0.10

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
531: Tehachapi-----	85	Limitations Slopes >15%	1.00	Limitations Caving potential Slopes >15%	1.00 1.00
540: Xeric Torriorthents-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential Bedrock (hard) at 40-60"	1.00 1.00 0.93
Badlands-----	25	Not rated		Not rated	
550: Elkhills-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
Welport-----	45	Limitations Thin pan <= 20" Slopes 8-15%	1.00 0.63	Limitations Pan (thin) <20" depth Slopes 8-15% Low caving potential	1.00 0.63 0.10
560: Laval-----	44	Limitations Flooding >= occasional	1.00	Limitations Caving potential Frequent or occasional flooding	1.00 0.50
Pleitito-----	44	Limitations Flooding >= occasional	1.00	Limitations Caving potential Frequent or occasional flooding	1.00 0.50
561: Laval-----	45	Limitations Flooding >= occasional	1.00	Limitations Caving potential Frequent or occasional flooding	1.00 0.50
Pleitito-----	45	Limitations Flooding >= occasional Slopes 8-15%	1.00 0.16	Limitations Caving potential Frequent or occasional flooding Slopes 8-15%	1.00 0.50 0.16

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
570: Hillbrick-----	65	Limitations Bedrock (hard) at <20" Slopes >15%	1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >15% Low caving potential	1.00 1.00 0.10
Rock outcrop-----	15	Not rated		Not rated	
571: Hillbrick-----	65	Limitations Bedrock (hard) at <20" Slopes >15%	1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >15% Low caving potential	1.00 1.00 0.10
Rock outcrop-----	15	Not rated		Not rated	
580: Reward-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
Hillbrick-----	45	Limitations Bedrock (hard) at <20" Slopes >15%	1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >15% Low caving potential	1.00 1.00 0.10
581: Reward-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
583: Bellyspring-----	35	Limitations Slopes 8-15%	0.63	Limitations Slopes 8-15% Low caving potential Bedrock (soft) at 20-40"	0.63 0.10 0.01
Panoza-----	25	Limitations AASHTO GI 5-8 (soil strength) Slopes 8-15% Shrink-swell (LEP 3-6)	0.78 0.63 0.01	Limitations Bedrock (soft) at 20-40" Slopes 8-15% Low caving potential	0.90 0.63 0.10
584: Bellyspring-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential Bedrock (soft) at 20-40"	1.00 0.10 0.01

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Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
584: Panoza-----	30	Limitations Slopes >15% AASHTO GI 5-8 (soil strength) Shrink-swell (LEP 3-6)	 1.00 0.78 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	 1.00 0.90 0.10
585: Bellyspring-----	35	Limitations Slopes >15%	 1.00	Limitations Slopes >15% Low caving potential Bedrock (soft) at 20-40"	 1.00 0.10 0.01
Panoza-----	30	Limitations Slopes >15% AASHTO GI 5-8 (soil strength) Shrink-swell (LEP 3-6)	 1.00 0.78 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	 1.00 0.90 0.10
586: Panoza-----	40	Limitations Slopes >15% AASHTO GI 5-8 (soil strength) Shrink-swell (LEP 3-6)	 1.00 0.78 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	 1.00 0.90 0.10
Beam-----	30	Limitations Slopes >15% Bedrock (soft) at <20"	 1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	 1.00 1.00 0.10
587: Panoza-----	40	Limitations Slopes >15% AASHTO GI 5-8 (soil strength) Shrink-swell (LEP 3-6)	 1.00 0.78 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	 1.00 0.90 0.10
Beam-----	30	Limitations Slopes >15% Bedrock (soft) at <20"	 1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	 1.00 1.00 0.10
588: Panoza-----	40	Limitations Slopes >15% AASHTO GI 5-8 (soil strength) Shrink-swell (LEP 3-6)	 1.00 0.78 0.01	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	 1.00 0.90 0.10

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Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
588: Beam-----	30	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
590: Gorman-----	35	Limitations Slopes >15% Shrink-swell (LEP 3-6) Frost action possible	1.00 0.78 0.50	Limitations Slopes >15% Low caving potential	1.00 0.10
Typic Xerorthents, mesic-----	30	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential Bedrock (soft) at 20-40"	1.00 1.00 0.15
Xerorthents, shallow-----	20	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
591: Geghus-----	40	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Low caving potential	1.00 0.10
Selby-----	40	Limitations Slopes >15% Bedrock (hard) at 20-40" Fragments (>3") 25-50%	1.00 0.84 0.69	Limitations Bedrock (hard) at <40" Slopes >15% Fragments (>3") 25-50%	1.00 1.00 0.69
600: Positas-----	45	Limitations AASHTO GI >8 (low soil strength) Shrink-swell (LEP >6)	1.00 1.00	Limitations Caving potential Clay 40-60%	1.00 0.08
Bitcreek-----	35	Limitations Shrink-swell (LEP 3-6)	0.78	Limitations Clay 40-60% Low caving potential	0.41 0.10

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Soil Survey of Kern County, California, Southwest Part

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
610: Balcom-----	55	Limitations Slopes >15% AASHTO GI 5-8 (soil strength)	1.00 0.22	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.20 0.10
Rock outcrop-----	20	Not rated		Not rated	
620: Typic Xerorthents, mesic-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential Bedrock (soft) at 20-40"	1.00 1.00 0.15
Haploxerepts-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
Xerorthents, sandy-----	18	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
640: Bitcreek-----	40	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Clay 40-60% Low caving potential	1.00 0.41 0.10
Dibble-----	30	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Caving potential Bedrock (soft) at 20-40"	1.00 1.00 0.01
Eaglerest-----	15	Limitations Slopes >15% Bedrock (soft) at <20" Shrink-swell (LEP 3-6)	1.00 1.00 0.01	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
650: Lithic Argixerolls-----	50	Limitations Bedrock (hard) at <20" Slopes >15% Fragments (>3") 25-50%	1.00 1.00 0.86	Limitations Bedrock (hard) at <40" Slopes >15% Fragments (>3") 25-50%	1.00 1.00 0.86

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
650: Lithic Xerorthents, mesic-----	25	Limitations Bedrock (hard) at <20" Slopes >15% Fragments (>3") >50%	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >15% Fragments (>3") >50%	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
660: Elkhills-----	70	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
Legray-----	20	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
661: Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
Legray-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
670: Harrisranch-----	60	Limitations Slopes >15% Frost action possible	1.00 0.50	Limitations Slopes >15% Low caving potential	1.00 0.10
Rock outcrop-----	20	Not rated		Not rated	
680: Milham-----	90	Limitations Shrink-swell (LEP 3-6)	0.78	Limitations Caving potential	1.00
690: Dibble-----	45	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Caving potential Bedrock (soft) at 20-40"	1.00 1.00 0.01
Geghus-----	40	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Low caving potential	1.00 0.10

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Soil Survey of Kern County, California, Southwest Part

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
700:					
Xerolls, loamy-skeletal-----	55	Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00
		Frost action possible	0.50	Fragments (>3") 25-50%	0.29
		Fragments (>3") 25-50%	0.29	Low caving potential	0.10
Los Gatos-----	30	Limitations		Limitations	
		Slopes >15%	1.00	Bedrock (hard) at <40"	1.00
		Shrink-swell (LEP 3-6)	0.78	Slopes >15%	1.00
		Bedrock (hard) at 20-40"	0.54	Caving potential	1.00
720:					
Friant-----	50	Limitations		Limitations	
		Bedrock (hard) at <20"	1.00	Bedrock (hard) at <40"	1.00
		Slopes >15%	1.00	Slopes >15%	1.00
				Low caving potential	0.10
Geghus-----	20	Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00
		AASHTO GI >8 (low soil strength)	1.00	Low caving potential	0.10
		Shrink-swell (LEP 3-6)	0.78		
Lithic Xerorthents, thermic-----	20	Limitations		Limitations	
		Bedrock (hard) at <20"	1.00	Bedrock (hard) at <40"	1.00
		Slopes >15%	1.00	Slopes >15%	1.00
				Low caving potential	0.10
724:					
Elkhills-----	90	Limitations		Limitations	
		Slopes >15%	1.00	Slopes >15%	1.00
				Low caving potential	0.10
725:					
Sodic Haplocambids, thick-----	85	Limitations		Limitations	
		Shrink-swell (LEP >6)	1.00	Slopes 8-15%	0.63
		AASHTO GI >8 (low soil strength)	1.00	Low caving potential	0.10
		Slopes 8-15%	0.63	Clay 40-60%	0.02
726:					
Sodic Haplocambids, thick-----	90	Limitations		Limitations	
		AASHTO GI >8 (low soil strength)	1.00	Slopes >15%	1.00
		Slopes >15%	1.00	Low caving potential	0.10
		Shrink-swell (LEP >6)	1.00	Clay 40-60%	0.02

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
727: Sodic Haplocambids, thick-----	90	Limitations Slopes >15% Shrink-swell (LEP >6) AASHTO GI >8 (low soil strength)	1.00 1.00 1.00	Limitations Slopes >15% Low caving potential Clay 40-60%	1.00 0.10 0.02
728: Torriorthents, very thin-----	85	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.20 0.10
729: Sodic Haplocambids, thick-----	40	Limitations Slopes >15% Shrink-swell (LEP >6) AASHTO GI >8 (low soil strength)	1.00 1.00 1.00	Limitations Slopes >15% Low caving potential Clay 40-60%	1.00 0.10 0.02
Torriorthents, thin-----	30	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Clay 40-60% Low caving potential	1.00 0.12 0.10
Torriorthents, very thin, eroded--	15	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.20 0.10
730: Haplocambids, thick-----	50	Limitations Slopes 8-15%	0.63	Limitations Caving potential Slopes 8-15%	1.00 0.63
Elkhills-----	30	Limitations Slopes 8-15%	0.63	Limitations Slopes 8-15% Low caving potential	0.63 0.10
731: Haplocambids, thick-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
732: Elkhills-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
Haplocambids, thick-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
733: Sodic Haplocambids, thick-----	50	Limitations Slopes >15% Shrink-swell (LEP >6) AASHTO GI >8 (low soil strength)	1.00 1.00 1.00	Limitations Slopes >15% Low caving potential Clay 40-60%	1.00 0.10 0.02
Torriorthents, thin-----	35	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Clay 40-60% Low caving potential	1.00 0.12 0.10
734: Sodic Haplocambids, thick-----	40	Limitations Slopes >15% Shrink-swell (LEP >6) AASHTO GI >8 (low soil strength)	1.00 1.00 1.00	Limitations Slopes >15% Low caving potential Clay 40-60%	1.00 0.10 0.02
Torriorthents, very thin, eroded--	25	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.20 0.10
Elkhills-----	24	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
735: Sodic Haplocambids, thick-----	40	Limitations AASHTO GI >8 (low soil strength) Slopes >15% Shrink-swell (LEP >6)	1.00 1.00 1.00	Limitations Slopes >15% Low caving potential Clay 40-60%	1.00 0.10 0.02
Elkhills-----	25	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
735: Torriorthents, thin-----	20	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Clay 40-60% Low caving potential	1.00 0.12 0.10
750: Ballinger-----	85	Limitations AASHTO GI >8 (low soil strength) Slopes >15% Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Clay 40-60% Bedrock (soft) at 20-40"	1.00 0.50 0.42
760: Ballinger-----	85	Limitations AASHTO GI >8 (low soil strength) Slopes >15% Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Clay 40-60% Bedrock (soft) at 20-40"	1.00 0.50 0.42
780: Stutzville-----	85	Limitations Flooding >= occasional AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Caving potential Frequent or occasional flooding Clay 40-60%	1.00 0.50 0.12
850: Xerofluvents-----	85	Limitations Flooding >= occasional	1.00	Limitations Caving potential Frequent or occasional flooding	1.00 0.50
860: Hawk-----	90	Limitations Slopes 8-15% Frost action possible Flooding = rare	0.63 0.50 0.50	Limitations Caving potential Slopes 8-15%	1.00 0.63
870: Frazier-----	80	Limitations Slopes >15% Bedrock (hard) at 20-40" Frost action possible	1.00 0.95 0.50	Limitations Bedrock (hard) at <40" Slopes >15% Caving potential	1.00 1.00 1.00
880: Chuchupate-----	90	Limitations Slopes >15% Frost action possible Bedrock (hard) at 20-40"	1.00 0.50 0.06	Limitations Bedrock (hard) at <40" Slopes >15% Caving potential	1.00 1.00 1.00

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
890: Gorman-----	90	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Low caving potential	1.00 0.10
919: Zonap-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Bedrock (soft) at 20-40" Low caving potential	1.00 0.79 0.10
Harrisranch-----	30	Limitations Slopes >15%	1.00	Limitations Slopes >15% Low caving potential	1.00 0.10
Beam-----	15	Limitations Slopes >15% Bedrock (soft) at <20"	1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	1.00 1.00 0.10
930: Bitcreek-----	40	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Clay 40-60% Low caving potential	1.00 0.41 0.10
Shimmon-----	25	Limitations Slopes >15% Shrink-swell (LEP 3-6) AASHTO GI 5-8 (soil strength)	1.00 0.78 0.22	Limitations Caving potential Slopes >15% Bedrock (soft) at <20"	1.00 1.00 0.99
Balhud-----	15	Limitations Bedrock (hard) at <20" Bedrock (soft) at <20" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Bedrock (soft) at <20" Slopes >15%	1.00 1.00 1.00
932: Bitcreek-----	40	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Clay 40-60% Low caving potential	1.00 0.41 0.10
Shimmon-----	25	Limitations Slopes >15% Shrink-swell (LEP 3-6) AASHTO GI 5-8 (soil strength)	1.00 0.78 0.22	Limitations Slopes >15% Caving potential Bedrock (soft) at <20"	1.00 1.00 0.99

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Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
932: Balhud-----	20	Limitations Bedrock (hard) at <20" Slopes >15% Bedrock (soft) at <20"	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Bedrock (soft) at <20" Slopes >15%	1.00 1.00 1.00
940: Bitcreek-----	90	Limitations Shrink-swell (LEP 3-6)	0.78	Limitations Clay 40-60% Low caving potential	0.41 0.10
950: Pleito-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15% Caving potential	1.00 1.00
Ballinger-----	25	Limitations AASHTO GI >8 (low soil strength) Slopes >15% Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Clay 40-60% Low caving potential	1.00 0.50 0.10
Balhud-----	20	Limitations Bedrock (hard) at <20" Slopes >15% Bedrock (soft) at <20"	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Bedrock (soft) at <20" Slopes >15%	1.00 1.00 1.00
951: Bitcreek-----	40	Limitations Slopes >15% Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >15% Clay 40-60% Low caving potential	1.00 0.41 0.10
Balhud-----	30	Limitations Bedrock (hard) at <20" Bedrock (soft) at <20" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Bedrock (soft) at <20" Slopes >15%	1.00 1.00 1.00
Ballinger-----	15	Limitations AASHTO GI >8 (low soil strength) Slopes >15% Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >15% Clay 40-60% Low caving potential	1.00 0.50 0.10
954: Typic Haploxeralfs, fine-----	50	Limitations Slopes >15% Shrink-swell (LEP 3-6) Frost action possible	1.00 0.78 0.50	Limitations Slopes >15% Caving potential Bedrock (soft) at 20-40"	1.00 1.00 0.90

Table 11b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations	
		Limitations	Value	Limitations	Value
954: Haploxerolls, coarse-loamy-----	30	Limitations Slopes >15% Fragments (>3") >50% Frost action possible	 1.00 1.00 0.50	Limitations Bedrock (hard) at <40" Slopes >15% Fragments (>3") >50%	 1.00 1.00 1.00
955: Calcic Haploxerepts-----	30	Limitations Slopes >15% AASHTO GI >8 (low soil strength) Shrink-swell (LEP 3-6)	 1.00 1.00 0.78	Limitations Slopes >15% Low caving potential	 1.00 0.10
Xerorthents, shallow-----	25	Limitations Slopes >15% Bedrock (soft) at <20"	 1.00 1.00	Limitations Bedrock (soft) at <20" Slopes >15% Low caving potential	 1.00 1.00 0.10
Badlands-----	20	Not rated		Not rated	
970: Harrisranch-----	50	Limitations Slopes >15%	 1.00	Limitations Slopes >15% Low caving potential	 1.00 0.10
Bitcreek-----	35	Limitations Slopes >15% Shrink-swell (LEP 3-6)	 1.00 0.78	Limitations Slopes >15% Clay 40-60% Low caving potential	 1.00 0.41 0.10
980: Area not surveyed, access denied--	100	Not rated		Not rated	
W: Water-----	100	Not rated		Not rated	

The interpretation for local roads and streets evaluates the following soil properties and characteristics: flooding, ponding, wetness, slope, organic Unified classes for low soil strength (PT, OL, or OH), content of clay, depth to hard or soft bedrock, depth to a thick or thin cemented pan, fragments greater than 3 inches in size, bulk density, and the caving potential of the soil.

The interpretation for shallow excavations evaluates the following soil properties and characteristics: flooding, ponding, wetness, slope, subsidence of organic soils, shrink-swell potential expressed as linear extensibility percent (LEP), potential for frost action, depth to hard or soft bedrock, depth to a thick or thin cemented pan, fragments greater than 3 inches in size, and soil strength expressed as the AASHTO group index number (AASHTO GI).

Table 12a.--Construction Materials (Part 1)

[The information in this table is based on interpretations developed by the Pacific Southwest MLRA Office. The information indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The closer the value is to 0.00, the greater the limitation. Values of 0.00 indicate absolute limitations based on the soil property criteria used to develop the interpretation. Values closer to 1.00 indicate lesser limitations. Features with values of 1.00 have absolutely no limitation and are not shown in the table. Rating classes are determined by the most limiting value. Fine-earth fractions and rock fragments are reported on the basis of weight. An explanation of the rating criteria and of the abbreviations used in describing the limitations is given at the end of the table]

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101: Bakersfield, drained-----	80	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.02 0.12	Good source	
102: Bakersfield, partially drained-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.02 0.12	Poor source SAR >13 EC 4-8 dS/m	0.00 0.88
110: Buttonwillow, partially drained-----	75	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Clay >40% SAR 4-13	0.00 0.98
120: Granoso-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.42 0.72	Poor source Sand fractions >85%	0.00
121: Granoso-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.07 0.72	Fair source Sand fractions 75-85%	0.47

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Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
122: Granoso, loamy substratum-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer not a source Thickest layer a possible source	0.00 0.42	Poor source Sand fractions >85%	0.00
123: Granoso-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.42 0.72	Poor source Sand fractions >85%	0.00
124: Granoso-----	90	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.07 0.72	Fair source Rock fragment content Sand fractions 75-85% Hard to reclaim	0.01 0.47 0.95
130: Cerini-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Good source	
131: Calflax-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source SAR 4-13 Clay 27-40%	0.60 0.92
132: Cerini-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Good source	
133: Calflax-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source SAR 4-13 Clay 27-40%	0.60 0.92

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
134: Cerini-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Good source	
140: Copus silty clay, partially drained-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Clay >40% pH 4.5-6.5 EC 4-8 dS/m	0.00 0.41 0.88
141: Copus clay, partially drained-----	95	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Clay >40% pH 4.5-6.5 EC 4-8 dS/m	0.00 0.41 0.88
150: Excelsior-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Good source	
151: Excelsior, saline-sodic-	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Good source	
152: Excelsior-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Good source	
153: Tupman-----	80	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.06 0.10	Poor source Rock fragment content Hard to reclaim	0.00 0.20

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Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
154: Tupman-----	70	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.06 0.10	Poor source Rock fragment content Hard to reclaim	0.00 0.20
Urban land-----	20	Not Rated		Not Rated		Not rated	
160: Fages-----	80	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Clay >40% SAR >13 EC >8 dS/m	0.00 0.00 0.00
179: Padres-----	70	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.06 0.06	Poor source Rock fragment content Hard to reclaim	0.00 0.20
180: Garces-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.01 0.02	Poor source SAR >13 EC >8 dS/m	0.00 0.00
190: Guijarral-----	85	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.15	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Hard to reclaim Rock fragment content	0.00 0.00
191: Guijarral-----	85	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.15	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Hard to reclaim Rock fragment content	0.00 0.00

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
192: Guijarral-----	45	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.15	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Hard to reclaim Rock fragment content	0.00 0.00
Klipstein-----	45	Fair source Thickest layer a possible source Bottom layer possible source	0.44 0.57	Fair source Thickest layer a possible source Bottom layer a possible source	0.03 0.04	Poor source Rock fragment content Hard to reclaim	0.00 0.00
193: Guijarral-----	85	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.15	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Hard to reclaim Rock fragment content	0.00 0.00
195: Guijarral, extremely gravelly substratum----	60	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.57	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Hard to reclaim Rock fragment content	0.00 0.00
Guijarral-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.03 0.03	Poor source Rock fragment content Hard to reclaim	0.00 0.92
197: Klipstein-----	60	Fair source Thickest layer a possible source Bottom layer possible source	0.44 0.57	Fair source Thickest layer a possible source Bottom layer a possible source	0.03 0.04	Poor source Rock fragment content Hard to reclaim Slope 8-12%	0.00 0.00 0.84
Guijarral-----	25	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.15	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Hard to reclaim Rock fragment content Slope 8-12%	0.00 0.00 0.84

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
200: Hesperia-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.04	Good source	
201: Hesperia-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.04	Good source	
210: Kimberlina-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer not a source Thickest layer a possible source	0.00 0.01	Fair source Rock fragment content	0.97
211: Kimberlina-----	80	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.03 0.04	Good source	
212: Kimberlina, saline-sodic	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer not a source Thickest layer a possible source	0.00 0.01	Poor source SAR >13 EC 4-8 dS/m Rock fragment content	0.00 0.50 0.97
214: Kimberlina-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.03 0.04	Poor source Rock fragment content Hard to reclaim	0.00 0.92
215: Kimberlina-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.02 0.04	Poor source Rock fragment content Hard to reclaim	0.00 0.82

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
216: Kimberlina, occasionally flooded-----	50	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.03 0.04	Good source	
Granoso, occasionally flooded-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.51 0.72	Poor source Sand fractions >85% Rock fragment content	0.00 0.32
217: Kimberlina-----	50	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.03 0.04	Good source	
Urban land-----	35	Not Rated		Not Rated		Not rated	
219: Xerorthents-----	50	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40"	0.00 0.00 0.32
Badlands-----	35	Not Rated		Not Rated		Not rated	
220: Lokern, drained-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Clay >40% SAR 4-13	0.00 0.98
221: Lokern, partially drained-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Clay >40% SAR >13 EC 4-8 dS/m	0.00 0.00 0.50

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Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
230: Milagro-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.02 0.03	Fair source Sand fractions 75-85%	0.02
231: Milagro-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.02 0.03	Fair source Sand fractions 75-85%	0.02
240: Millox, partially drained-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.01	Poor source SAR >13 Clay >40% EC 4-8 dS/m	0.00 0.00 0.50
241: Millox, partially drained, nonsaline----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.01	Poor source Clay >40%	0.00
242: Millox, partially drained-----	55	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.03	Poor source SAR >13 Clay >40% EC 4-8 dS/m	0.00 0.00 0.50
Tennco-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source SAR 4-13	0.40
243: Millox, partially drained-----	50	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.01	Poor source Clay >40%	0.00

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
243: Zalvidea, partially drained-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer not a source Thickest layer a possible source	0.00 0.04	Fair source EC 4-8 dS/m	0.88
246: Whitewolf-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.06 0.10	Fair source Sand fractions 75-85% Rock fragment content	0.38 0.97
250: Oldriver-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source SAR 4-13	0.98
251: Oldriver, partially drained, sodic-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source SAR 4-13	0.22
260: Panoche-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Good source	
270: Pits-----	50	Not Rated		Not Rated		Not rated	
Dumps-----	50	Not Rated		Not Rated		Not rated	
280: Premier-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.03 0.04	Good source	

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
281: Premier-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.03 0.04	Good source	
290: Riverwash-----	85	Not Rated		Not Rated		Not rated	
300: Tennco-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source SAR 4-13	0.48
310: Vineland, drained-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.01 0.08	Poor source Sand fractions >85%	0.00
312: Vineland, drained-----	50	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.01 0.08	Poor source Sand fractions >85%	0.00
Bakersfield, drained-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.02 0.12	Good source	
320: Wasco-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.04	Good source	

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
330: Cuyama-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Thickest layer not a source Bottom layer not a source	0.00 0.00	Poor source Hard to reclaim SAR 4-13 Rock fragment content	0.00 0.40 0.82
331: Cuyama-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Thickest layer not a source Bottom layer not a source	0.00 0.00	Poor source Hard to reclaim SAR 4-13 Rock fragment content Slope 8-12%	0.00 0.40 0.82 0.84
332: Cuyama-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Thickest layer not a source Bottom layer not a source	0.00 0.00	Poor source Slope >15% Hard to reclaim SAR 4-13 Rock fragment content	0.00 0.00 0.40 0.82
340: Weedpatch-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source Clay 27-40% Calcium carbonates 15-40% SAR 4-13	0.50 0.92 0.98
350: Posochanet, saline-sodic	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source SAR >13 EC >8 dS/m Clay >40%	0.00 0.00 0.00
351: Posochanet, saline-sodic	75	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source SAR >13 EC >8 dS/m Clay >40%	0.00 0.00 0.00
352: Posochanet-----	70	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source SAR >13 EC >8 dS/m Clay >40%	0.00 0.00 0.00

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
352: Posochanet, partially reclaimed-----	20	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Clay >40% EC 4-8 dS/m SAR 4-13	0.00 0.12 0.78
360: Wheelridge-----	85	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.57	Fair source Thickest layer a possible source Bottom layer a possible source	0.07 0.86	Poor source Hard to reclaim Rock fragment content Sand fractions 75-85%	0.00 0.00 0.38
370: Whitewolf-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.10 0.10	Fair source Sand fractions 75-85% Rock fragment content	0.38 0.97
371: Whitewolf-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.10 0.10	Fair source Sand fractions 75-85% Rock fragment content	0.38 0.97
380: Zalvidea, partially drained-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer not a source Thickest layer a possible source	0.00 0.04	Fair source EC 4-8 dS/m	0.88
381: Zalvidea, partially drained-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer not a source Thickest layer a possible source	0.00 0.04	Fair source EC 4-8 dS/m	0.88

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
389: Xerofluvents-----	30	Fair source Bottom layer not a source Thickest layer a possible source	0.00 0.11	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.07	Poor source Rock fragment content Hard to reclaim Sand fractions 75-85%	0.00 0.20 0.38
Haploxerepts-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.04	Fair source Rock fragment content Hard to reclaim	0.01 0.99
Riverwash-----	15	Not Rated		Not Rated		Not rated	
390: Pleito-----	85	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source Hard to reclaim Rock fragment content	0.46 0.59
391: Pleito-----	80	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source Hard to reclaim Rock fragment content	0.46 0.59
392: Pleito-----	85	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source Hard to reclaim Rock fragment content	0.46 0.59
393: Pleito-----	85	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Hard to reclaim Rock fragment content	0.00 0.46 0.59
394: Pleito-----	45	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Hard to reclaim Rock fragment content	0.00 0.46 0.59

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
394: Xeric Torriorthents, very gravelly-----	40	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.02 0.02	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40" SAR 4-13	0.00 0.00 0.32 0.98
395: Pleito-----	50	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Hard to reclaim Rock fragment content	0.00 0.46 0.59
Emidio-----	20	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15%	0.00
Loslobos-----	15	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.00 0.92
396: Pleito-----	60	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Hard to reclaim Rock fragment content	0.00 0.46 0.59
Loslobos-----	25	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.00 0.92
398: Calcic Haploxerepts-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15%	0.00

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
398: Calcic Pachic Argixerolls, fine-----	25	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Clay 27-40%	0.00 0.08
Xerorthents, shallow----	20	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.03	Poor source Slope >15% Depth to bedrock <20" SAR 4-13	0.00 0.00 0.90
400: Loslobos-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.00 0.92
Xeric Torriorthents, very gravelly-----	25	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.02 0.02	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40" SAR 4-13	0.00 0.00 0.32 0.98
Badlands-----	20	Not Rated		Not Rated		Not rated	
401: Loslobos-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.00 0.92
402: Loslobos-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.00 0.92

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
402: Walong-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40"	0.00 0.18 0.48
403: Loslobos-----	45	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.00 0.92
Calleguas-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock <20" Rock fragment content Clay 27-40%	0.00 0.00 0.50 0.98
404: Loslobos, moist-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.00 0.92
430: Littlesignal-----	45	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content	0.00 0.92
Cochora-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.02	Poor source Slope >15% Depth to bedrock <20" Rock fragment content	0.00 0.00 0.82
431: Littlesignal-----	50	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content	0.00 0.92

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
431: Cochora-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.02	Poor source Slope >15% Depth to bedrock <20" Rock fragment content	0.00 0.00 0.82
432: Littlesignal-----	45	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content	0.00 0.92
Badlands-----	25	Not Rated		Not Rated		Not rated	
Cochora-----	20	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.02	Poor source Slope >15% Depth to bedrock <20" Rock fragment content	0.00 0.00 0.82
440: Elkhills-----	50	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82
Pyxo-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.04	Poor source Slope >15% Depth to bedrock 20-40" Rock fragment content SAR 4-13	0.00 0.52 0.82 0.98
441: Sodic Haplocambids, thick-----	60	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source SAR >13 Slope >15% Clay >40% EC >8 dS/m	0.00 0.00 0.00 0.00
442: Elkhills-----	80	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Fair source Rock fragment content Slope 8-12%	0.82 0.84

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
443: Elkhills-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82
Badlands-----	40	Not Rated		Not Rated		Not rated	
444: Elkhills-----	90	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82
445: Sodic Haplocambids, thick-----	45	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% SAR >13 Clay >40% EC >8 dS/m	0.00 0.00 0.00 0.00
Elkhills-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82
451: Beam-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.01	Poor source Slope >15% Depth to bedrock <20" SAR 4-13	0.00 0.00 0.98
Panoza-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock 20-40"	0.00 0.22
Hillbrick-----	15	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock <20"	0.00 0.00

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
460: Geghus-----	50	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15%	0.00
Tecuya-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Hard to reclaim Rock fragment content Slope 12-15%	0.00 0.00 0.37
461: Geghus-----	50	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15%	0.00
Tecuya-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Hard to reclaim Rock fragment content	0.00 0.00 0.00
462: Geghus-----	55	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15%	0.00
Xeric Torriorthents, very gravelly-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.02 0.02	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40" SAR 4-13	0.00 0.00 0.32 0.98
470: Pyxo-----	55	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.04	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40" SAR 4-13	0.00 0.82 0.94 0.98
Cochora-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.03	Poor source Slope >15% Depth to bedrock <20" Rock fragment content	0.00 0.00 0.82

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Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
471: Pyxo-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock 20-40" Rock fragment content SAR 4-13	0.00 0.42 0.82 0.98
Cochora-----	25	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.03	Poor source Slope >15% Depth to bedrock <20" Rock fragment content	0.00 0.00 0.82
Badlands-----	15	Not Rated		Not Rated		Not rated	
472: Pyxo-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.04	Fair source Depth to bedrock 20-40" Rock fragment content Slope 8-12% SAR 4-13	0.52 0.82 0.84 0.98
Kimberlina-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer a possible source Bottom layer a possible source	0.03 0.04	Fair source Slope 8-12%	0.84
Cochora-----	25	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.02	Poor source Depth to bedrock <20" Rock fragment content Slope 8-12%	0.00 0.82 0.84
480: Pyxo, dry-----	45	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.04	Poor source Slope >15% Depth to bedrock 20-40" Rock fragment content SAR 4-13	0.00 0.52 0.82 0.98
Elkhills-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
490: Padres-----	65	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.06 0.06	Poor source Rock fragment content Hard to reclaim	0.00 0.20
500: Bitcreek-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source Rock fragment content Clay 27-40%	0.59 0.82
510: Beam-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.01	Poor source Slope >15% Depth to bedrock <20" SAR 4-13	0.00 0.00 0.98
Panoza-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock 20-40"	0.00 0.22
Hillbrick-----	15	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock <20"	0.00 0.00
511: Beam-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.01	Poor source Slope >15% Depth to bedrock <20" SAR 4-13	0.00 0.00 0.98
Panoza-----	30	Not rated Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source Organic matter limitation	0.00 0.00 0.00	Poor source Slope >15% Depth to bedrock 20-40"	0.00 0.22
Hillbrick-----	15	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock <20"	0.00 0.00

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Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
515: Zonap-----	50	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.01 0.01	Poor source Slope >15% Depth to bedrock 20-40"	0.00 0.32
Badlands-----	20	Not Rated		Not Rated		Not rated	
Beam-----	15	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.02	Poor source Slope >15% Depth to bedrock <20" SAR 4-13 Sand fractions 75-85%	0.00 0.00 0.98 0.98
516: Zonap-----	45	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.01 0.01	Poor source Slope >15% Depth to bedrock 20-40"	0.00 0.32
Beam-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.02	Poor source Slope >15% Depth to bedrock <20" SAR 4-13 Sand fractions 75-85%	0.00 0.00 0.98 0.98
530: Tehachapi-----	80	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Hard to reclaim Clay 27-40%	0.00 0.98
531: Tehachapi-----	85	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Hard to reclaim Slope >15% Rock fragment content Clay 27-40%	0.00 0.00 0.00 0.98

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Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
540: Xeric Torriorthents-----	50	Fair source Thickest layer a possible source Bottom layer possible source	0.26 0.57	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Slope >15% Hard to reclaim Rock fragment content	0.00 0.00 0.00
Badlands-----	25	Not Rated		Not Rated		Not rated	
550: Elkhills-----	45	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82
Welport-----	45	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.04	Poor source Depth to pan <20" Slope 12-15% Rock fragment content	0.00 0.37 0.82
560: Laval-----	44	Fair source Thickest layer a possible source Bottom layer possible source	0.16 0.45	Fair source Bottom layer a possible source Thickest layer a possible source	0.14 0.14	Poor source Rock fragment content Hard to reclaim	0.00 0.00
Pleitito-----	44	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Fair source Rock fragment content	0.82
561: Laval-----	45	Fair source Thickest layer a possible source Bottom layer possible source	0.16 0.45	Fair source Bottom layer a possible source Thickest layer a possible source	0.14 0.14	Poor source Rock fragment content Hard to reclaim	0.00 0.00

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Soil Survey of Kern County, California, Southwest Part

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
561: Pleitito-----	45	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Fair source Rock fragment content Slope 8-12%	0.82 0.84
570: Hillbrick-----	65	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock <20"	0.00 0.00
Rock outcrop-----	15	Not Rated		Not Rated		Not rated	
571: Hillbrick-----	65	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock <20"	0.00 0.00
Rock outcrop-----	15	Not Rated		Not Rated		Not rated	
580: Reward-----	45	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.00 0.39
Hillbrick-----	45	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.03	Poor source Slope >15% Depth to bedrock <20" Rock fragment content	0.00 0.00 0.95
581: Reward-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.00 0.39
583: Bellyspring-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.04	Fair source Slope 12-15% Rock fragment content Depth to bedrock 20-40"	0.37 0.92 0.94

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
583: Panoza-----	25	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source Depth to bedrock 20-40" Slope 12-15%	0.22 0.37
584: Bellyspring-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.04	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40"	0.00 0.92 0.94
Panoza-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock 20-40"	0.00 0.22
585: Bellyspring-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.04	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40"	0.00 0.92 0.94
Panoza-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock 20-40"	0.00 0.22
586: Panoza-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock 20-40"	0.00 0.22
Beam-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.01	Poor source Slope >15% Depth to bedrock <20" SAR 4-13	0.00 0.00 0.98
587: Panoza-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock 20-40"	0.00 0.22

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
587: Beam-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.01	Poor source Slope >15% Depth to bedrock <20" SAR 4-13	0.00 0.00 0.00 0.98
588: Panoza-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock 20-40"	0.00 0.00 0.22
Beam-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.01	Poor source Slope >15% Depth to bedrock <20" SAR 4-13	0.00 0.00 0.00 0.98
590: Gorman-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15%	0.00
Typic Xerorthents, mesic	30	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.25	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40" SAR 4-13	0.00 0.00 0.72 0.98
Xerorthents, shallow----	20	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.03	Poor source Slope >15% Depth to bedrock <20" SAR 4-13	0.00 0.00 0.00 0.90
591: Geghus-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15%	0.00
Selby-----	40	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Thickest layer not a source Bottom layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40"	0.00 0.00 0.00 0.28

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
600: Positas-----	45	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.60	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.02	Poor source Hard to reclaim Clay >40%	0.00 0.00
Bitcreek-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source Rock fragment content Clay 27-40%	0.59 0.82
610: Balcom-----	55	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock 20-40"	0.00 0.68
Rock outcrop-----	20	Not Rated		Not Rated		Not rated	
620: Typic Xerorthents, mesic	40	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.25	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40" SAR 4-13	0.00 0.00 0.72 0.98
Haploxerepts-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.04	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.01 0.99
Xerorthents, sandy-----	18	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.07	Poor source Slope >15% Rock fragment content Sand fractions 75-85% Hard to reclaim	0.00 0.00 0.38 0.92
640: Bitcreek-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Clay 27-40%	0.00 0.59 0.82

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Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
640: Dibble-----	30	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.00 0.28	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Clay 27-40% Rock fragment content Depth to bedrock 20-40"	0.00 0.02 0.82 0.94
Eaglerest-----	15	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock <20" Rock fragment content	0.00 0.00 0.00
650: Lithic Argixerolls-----	50	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.01	Poor source Slope >15% Rock fragment content Depth to bedrock <20"	0.00 0.00 0.00
Lithic Xerorthents, mesic-----	25	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.04	Poor source Slope >15% Depth to bedrock <20" Rock fragment content	0.00 0.00 0.00
Rock outcrop-----	15	Not Rated		Not Rated		Not rated	
660: Elkhills-----	70	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82
Legray-----	20	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00 0.00	Fair source Bottom layer not a source Thickest layer a possible source	0.00 0.04	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.00 0.92
661: Elkhills-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
661: Legray-----	40	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Fair source Bottom layer not a source Thickest layer a possible source	0.00 0.04	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.00 0.92
670: Harrisranch-----	60	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Slope >15%	0.00
Rock outcrop-----	20	Not Rated		Not Rated		Not rated	
680: Milham-----	90	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.10	Fair source Rock fragment content	0.76
690: Dibble-----	45	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.28	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Clay 27-40% Rock fragment content Depth to bedrock 20-40"	0.00 0.02 0.82 0.94
Geghus-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15%	0.00
700: Xerolls, loamy-skeletal-	55	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Hard to reclaim	0.00 0.00 0.00
Los Gatos-----	30	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.31	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40"	0.00 0.00 0.48

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
720: Friant-----	50	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Depth to bedrock <20"	0.00 0.00 0.00
Geghus-----	20	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15%	0.00
Lithic Xerorthents, thermic-----	20	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.04	Poor source Slope >15% Depth to bedrock <20" Rock fragment content	0.00 0.00 0.00
724: Elkhills-----	90	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82
725: Sodic Haplocambids, thick-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source SAR >13 Clay >40% EC >8 dS/m Slope 12-15%	0.00 0.00 0.00 0.37
726: Sodic Haplocambids, thick-----	90	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Clay >40% SAR >13 EC >8 dS/m	0.00 0.00 0.00 0.00
727: Sodic Haplocambids, thick-----	90	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% SAR >13 Clay >40% EC >8 dS/m	0.00 0.00 0.00 0.00

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Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
728: Torriorthents, very thin	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% SAR >13 EC >8 dS/m Depth to bedrock 20-40" Clay 27-40%	0.00 0.00 0.00 0.68 0.82
729: Sodic Haplocambids, thick-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% SAR >13 Clay >40% EC >8 dS/m	0.00 0.00 0.00 0.00
Torriorthents, thin-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% SAR >13 EC >8 dS/m Clay 27-40%	0.00 0.00 0.00 0.32
Torriorthents, very thin, eroded-----	15	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% SAR >13 EC >8 dS/m Depth to bedrock 20-40" Clay 27-40%	0.00 0.00 0.00 0.68 0.82
730: Haplocambids, thick-----	50	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.15	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source Hard to reclaim Slope 12-15%	0.16 0.37
Elkhills-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Fair source Slope 12-15% Rock fragment content	0.37 0.82

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
731: Haplocambids, thick-----	45	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.15	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Hard to reclaim	0.00 0.16
Elkhills-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82
732: Elkhills-----	50	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82
Haplocambids, thick-----	40	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.15	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Hard to reclaim	0.00 0.16
733: Sodic Haplocambids, thick-----	50	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% SAR >13 Clay >40% EC >8 dS/m	0.00 0.00 0.00 0.00
Torriorthents, thin-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% SAR >13 EC >8 dS/m Clay 27-40%	0.00 0.00 0.00 0.32

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
734: Sodic Haplocambids, thick-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% SAR >13 Clay >40% EC >8 dS/m	0.00 0.00 0.00 0.00
Torriorthents, very thin, eroded-----	25	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% SAR >13 EC >8 dS/m Depth to bedrock 20-40"	0.00 0.00 0.00 0.68
Elkhills-----	24	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82
735: Sodic Haplocambids, thick-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Clay >40% SAR >13 EC >8 dS/m	0.00 0.00 0.00 0.00
Elkhills-----	25	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.05	Poor source Slope >15% Rock fragment content	0.00 0.82
Torriorthents, thin-----	20	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% SAR >13 EC >8 dS/m Clay 27-40%	0.00 0.00 0.00 0.32

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Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
750: Ballinger-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Clay >40% EC >8 dS/m Depth to bedrock 20-40" SAR 4-13	0.00 0.00 0.00 0.54 0.98
760: Ballinger-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Clay >40% EC >8 dS/m Depth to bedrock 20-40" SAR 4-13	0.00 0.00 0.00 0.54 0.98
780: Stutzville-----	85	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.13	Poor source EC >8 dS/m SAR >13	0.00 0.00
850: Xerofluvents-----	85	Fair source Bottom layer not a source Thickest layer a possible source	0.00 0.11	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.07	Poor source Rock fragment content Hard to reclaim Sand fractions 75-85%	0.00 0.20 0.38
860: Hawk-----	90	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.04	Poor source Rock fragment content Hard to reclaim Slope 12-15%	0.00 0.12 0.37
870: Frazier-----	80	Fair source Thickest layer not a source due to fines or thin layer Bottom layer possible source	0.00 0.68	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.04	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40"	0.00 0.00 0.16

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
880: Chuchupate-----	90	Fair source Thickest layer a possible source Bottom layer possible source	0.11 0.40	Fair source Bottom layer a possible source Thickest layer a possible source	0.04 0.04	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40"	0.00 0.00 0.82
890: Gorman-----	90	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15%	0.00
919: Zonap-----	40	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.01 0.01	Poor source Slope >15% Depth to bedrock 20-40"	0.00 0.32
Harrisranch-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Slope >15%	0.00
Beam-----	15	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.02	Poor source Slope >15% Depth to bedrock <20" Sand fractions 75-85%	0.00 0.00 0.98
930: Bitcreek-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Clay 27-40%	0.00 0.59 0.82
Shimmon-----	25	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock 20-40" Clay 27-40% Rock fragment content	0.00 0.06 0.92 0.95

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
930: Balhud-----	15	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Depth to bedrock <20" Slope >15% Clay 27-40% Rock fragment content	0.00 0.00 0.82 0.82
932: Bitcreek-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Clay 27-40%	0.00 0.59 0.82
Shimmon-----	25	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock 20-40" Clay 27-40% Rock fragment content	0.00 0.06 0.92 0.95
Balhud-----	20	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock <20" Clay 27-40% Rock fragment content	0.00 0.00 0.82 0.82
940: Bitcreek-----	90	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Fair source Rock fragment content Clay 27-40%	0.59 0.82
950: Pleito-----	40	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Hard to reclaim Rock fragment content	0.00 0.46 0.59
Ballinger-----	25	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Clay >40% EC >8 dS/m Depth to bedrock 20-40" SAR 4-13	0.00 0.00 0.00 0.82 0.98

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
950: Balhud-----	20	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Depth to bedrock <20" Clay 27-40% Rock fragment content	0.00 0.00 0.82 0.82
951: Bitcreek-----	40	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Clay 27-40%	0.00 0.59 0.82
Balhud-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Depth to bedrock <20" Slope >15% Clay 27-40% Rock fragment content	0.00 0.00 0.82 0.82
Ballinger-----	15	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Clay >40% Slope >15% EC >8 dS/m Depth to bedrock 20-40" SAR 4-13	0.00 0.00 0.00 0.82 0.98
954: Typic Haploxeralfs, fine-	50	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Clay 27-40% Depth to bedrock 20-40" Rock fragment content	0.00 0.02 0.22 0.76
Haploxerolls, coarse- loamy-----	30	Poor source Thickest layer not a source due to fines or thin layer Bottom layer not a source	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Depth to bedrock 20-40"	0.00 0.00 0.72
955: Calcic Haploxerepts-----	30	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15%	0.00

Table 12a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
955: Xerorthents, shallow----	25	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Thickest layer not a source Bottom layer a possible source	0.00 0.03	Poor source Slope >15% Depth to bedrock <20"	0.00 0.00
Badlands-----	20	Not Rated		Not Rated		Not rated	
970: Harrisranch-----	50	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Fair source Bottom layer a possible source Thickest layer a possible source	0.03 0.03	Poor source Slope >15%	0.00
Bitcreek-----	35	Poor source Bottom layer not a source Thickest layer not a source due to fines or thin layer	0.00 0.00	Poor source Bottom layer not a source Thickest layer not a source	0.00 0.00	Poor source Slope >15% Rock fragment content Clay 27-40%	0.00 0.59 0.82
980: Area not surveyed, access denied-----	100	Not Rated		Not Rated		Not rated	
W: Water-----	100	Not Rated		Not Rated		Not rated	

The interpretation for gravel evaluates coarse fragments greater than 0.2 inch in size in the bottom layer or in the thickest layer of the soil.

The interpretation for sand evaluates the content of sand and fine gravel in the thickest layer or in the bottom layer of the soil. Organic soil layers with a Unified engineering class for peat (PT) are also evaluated.

The interpretation for topsoil evaluates the following soil properties: calcium carbonates, clay content, bulk density, sand content, soil wetness, coarse fragments 0.2 to 3 inches in size, rock fragments greater than 3 inches in size, content of organic matter (OM), sodium content expressed as the sodium adsorption ratio (SAR), salinity expressed as dS/m of electrical conductivity (EC), depth to bedrock, slope, and pH.

Table 12b.--Construction Materials (Part 2)

[The information in this table is based on interpretations developed by the Pacific Southwest MLRA Office. The information indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The closer the value is to 0, the greater the limitation. Values of 0.00 indicate absolute limitations based on the soil property criteria used to develop the interpretation. Values closer to 1.00 indicate lesser limitations. Features with a value of 1.00 have absolutely no limitation and are not shown in the table. Rating classes are determined by the most limiting value. Fine-earth fractions and rock fragments are reported on the basis of weight. An explanation of the rating criteria and of the abbreviations used in describing the limitations is given at the end of the table]

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
101: Bakersfield, drained-----	80	Poor source		Good source	
		OM <.5%	0.00		
		pH is 4-6.5 to a depth of 40"	0.88		
		K-factor <.10; or null data	0.99		
		SAR <4; or null data	1.00		
102: Bakersfield, partially drained----	85	Poor source		Good source	
		SAR >13	0.00		
		OM <.5%	0.00		
		pH 4-6.5 to a depth of 40"	0.88		
		EC 8-16 dS/m	0.96		
		K-factor <.10; or null data	0.99		
110: Buttonwillow, partially drained---	75	Poor source		Poor source	
		Clay >40%	0.00	AASHTO GI >8 (low soil strength)	0.00
		pH 4-6.5 to a depth of 40"	0.88		
		SAR from 4-13	0.97		
120: Granoso-----	85	Poor source		Good source	
		Sand fractions >85%	0.00		
		WEG 1 or 2	0.00		
		OM <.5%	0.00		
		AWC 3-6" to a depth of 60"	0.70		
121: Granoso-----	85	Poor source		Good source	
		WEG 1 or 2	0.00		
		OM <.5%	0.00		
		Sand fractions 75-85%	0.85		
		AWC 3-6" to a depth of 60"	0.90		

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
122: Granoso, loamy substratum-----	85	Poor source Sand fractions >85% WEG 1 or 2 OM <.5% K-factor .10-.35	 0.00 0.00 0.00 0.06	Good source	
123: Granoso-----	85	Poor source Sand fractions >85% OM <.5% AWC 3-6" to a depth of 60"	 0.00 0.00 0.84	Good source	
124: Granoso-----	90	Poor source WEG 1 or 2 OM <.5% AWC 3-6" to a depth of 60" Sand fractions 75-85%	 0.00 0.00 0.39 0.85	Good source	
130: Cerini-----	85	Fair source OM .5-1% K-factor .10-.35	 0.08 0.90	Good source	
131: Calflax-----	85	Poor source Maximum pH >8.5 OM <.5% SAR from 4-13 K-factor .10-.35 Clay 27-40%	 0.00 0.00 0.60 0.90 0.92	Poor source AASHTO GI >8 (low soil strength)	0.00
132: Cerini-----	85	Fair source OM .5-1% K-factor .10-.35	 0.08 0.90	Good source	
133: Calflax-----	85	Poor source Maximum pH >8.5 OM <.5% SAR from 4-13 Clay 27-40% K-factor <.10; or null data	 0.00 0.00 0.60 0.92 0.99	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.97

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
134: Cerini-----	85	Fair source OM .5-1% K-factor .10-.35	 0.08 0.90	Good source	
140: Copus silty clay, partially drained-----	85	Poor source Clay >40% pH 4-6.5 to a depth of 40"	 0.00 0.16	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.17
141: Copus clay, partially drained----	95	Poor source Clay >40% pH 4-6.5 to a depth of 40"	 0.00 0.16	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.17
150: Excelsior-----	85	Poor source OM <.5% K-factor .10-.35	 0.00 0.90	Good source	
151: Excelsior, saline-sodic-----	85	Poor source OM <.5% K-factor .10-.35 EC 8-16 dS/m	 0.00 0.90 0.97	Good source	
152: Excelsior-----	85	Poor source OM <.5% K-factor .10-.35	 0.00 0.90	Good source	
153: Tupman-----	80	Fair source OM .5-1% AWC 3-6" to a depth of 60"	 0.32 0.99	Good source	
154: Tupman-----	70	Fair source OM .5-1% AWC 3-6" to a depth of 60"	 0.32 0.99	Good source	
Urban land-----	20	Not rated		Not rated	

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
160: Fages-----	80	Poor source		Poor source	
		Clay >40%	0.00	AASHTO GI >8 (low soil strength)	0.00
		SAR >13	0.00	LEP 3-9	0.11
		EC >16 dS/m	0.00		
		OM .5-1%	0.32		
		AWC 3-6" to a depth of 60"	1.00		
179: Padres-----	70	Poor source		Good source	
		OM <.5%	0.00		
		K-factor .10-.35	0.90		
180: Garces-----	85	Poor source		Good source	
		OM <.5%	0.00		
		SAR >13	0.00		
		Maximum pH >8.5	0.00		
		EC 8-16 dS/m	0.50		
		K-factor .10-.35	0.90		
190: Guijarral-----	85	Poor source		Good source	
		OM <.5%	0.00		
191: Guijarral-----	85	Poor source		Good source	
		OM <.5%	0.00		
192: Guijarral-----	45	Poor source		Good source	
		OM <.5%	0.00		
Klipstein-----	45	Poor source		Good source	
		OM <.5%	0.00		
		AWC <3" to a depth of 60"	0.00		
193: Guijarral-----	85	Poor source		Good source	
		OM <.5%	0.00		
		AWC 3-6" to a depth of 60"	0.89		

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
195: Guijarral, extremely gravelly substratum-----	60	Poor source OM <.5% AWC 3-6" to a depth of 60"	0.00 0.89	Good source	
Guijarral-----	30	Poor source OM <.5%	0.00	Good source	
197: Klipstein-----	60	Poor source OM <.5% AWC <3" to a depth of 60"	0.00 0.00	Good source	
Guijarral-----	25	Poor source OM <.5% AWC 3-6" to a depth of 60"	0.00 0.89	Good source	
200: Hesperia-----	85	Poor source WEG 1 or 2 OM <.5%	0.00 0.00	Good source	
201: Hesperia-----	85	Poor source OM <.5%	0.00	Good source	
210: Kimberlina-----	85	Poor source OM <.5%	0.00	Good source	
211: Kimberlina-----	80	Poor source OM <.5%	0.00	Good source	
212: Kimberlina, saline-sodic-----	85	Poor source OM <.5% SAR >13	0.00 0.00	Good source	
214: Kimberlina-----	85	Poor source OM <.5%	0.00	Good source	

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
215: Kimberlina-----	85	Fair source OM .5-1%	0.50	Good source	
216: Kimberlina, occasionally flooded---	50	Poor source OM <.5%	0.00	Good source	
Granoso, occasionally flooded-----	35	Poor source Sand fractions >85% WEG 1 or 2 OM <.5% AWC 3-6" to a depth of 60"	0.00 0.00 0.00 0.09	Good source	
217: Kimberlina-----	50	Poor source OM <.5%	0.00	Good source	
Urban land-----	35	Not rated		Not rated	
219: Xerorthents-----	50	Poor source AWC <3" to a depth of 60" OM .5-1% SAR <4; or null data	0.00 0.50 1.00	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
Badlands-----	35	Not rated		Not rated	
220: Lokern, drained-----	85	Poor source Clay >40% pH 4-6.5 to a depth of 40" SAR from 4-13	0.00 0.64 0.97	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.15
221: Lokern, partially drained-----	85	Poor source Clay >40% SAR >13 pH 4-6.5 to a depth of 40"	0.00 0.00 0.64	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.15

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
230: Milagro-----	85	Poor source		Good source	
		WEG 1 or 2	0.00		
		OM <.5%	0.00		
		Sand fractions 75-85%	0.05		
		K-factor .10-.35	0.68		
		SAR <4; or null data	1.00		
231: Milagro-----	85	Poor source		Good source	
		OM <.5%	0.00		
		Sand fractions 75-85%	0.05		
		K-factor .10-.35	0.68		
		SAR <4; or null data	1.00		
240: Millox, partially drained-----	85	Poor source		Poor source	
		SAR >13	0.00	AASHTO GI >8 (low soil strength)	0.00
		Maximum pH >8.5	0.00	LEP 3-9	0.23
		Clay >40%	0.00		
		OM .5-1%	0.08		
		AWC 3-6" to a depth of 60"	0.87		
		EC 8-16 dS/m	0.88		
241: Millox, partially drained, nonsaline-----	85	Poor source		Poor source	
		Maximum pH >8.5	0.00	AASHTO GI >8 (low soil strength)	0.00
		Clay >40%	0.00	LEP 3-9	0.23
		OM .5-1%	0.08		
242: Millox, partially drained-----	55	Poor source		Poor source	
		SAR >13	0.00	AASHTO GI >8 (low soil strength)	0.00
		Maximum pH >8.5	0.00	LEP 3-9	0.23
		Clay >40%	0.00		
		OM .5-1%	0.08		
		AWC 3-6" to a depth of 60"	0.81		
		EC 8-16 dS/m	0.88		
Tennco-----	35	Poor source		Good source	
		Maximum pH >8.5	0.00		
		OM <.5%	0.00		
		SAR >13	0.00		
		EC >16 dS/m	0.00		
		K-factor .10-.35	0.37		

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
243: Millox, partially drained-----	50	Poor source Maximum pH >8.5 Clay >40% OM .5-1%	0.00 0.00 0.08	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.23
Zalvidea, partially drained-----	35	Poor source OM <.5%	0.00	Good source	
246: Whitewolf-----	85	Poor source OM <.5% Sand fractions 75-85% AWC 3-6" to a depth of 60"	0.00 0.76 0.76	Good source	
250: Oldriver-----	85	Poor source Maximum pH >8.5 K-factor .10-.35 SAR from 4-13	0.00 0.90 0.97	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.87
251: Oldriver, partially drained, sodic	85	Poor source SAR >13 Maximum pH >8.5 K-factor .10-.35	0.00 0.00 0.90	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.87
260: Panoche-----	85	Poor source OM <.5% K-factor .10-.35	0.00 0.90	Fair source LEP 3-9	0.80
270: Pits-----	50	Not rated		Not rated	
Dumps-----	50	Not rated		Not rated	
280: Premier-----	85	Poor source OM <.5%	0.00	Good source	
281: Premier-----	85	Poor source OM <.5%	0.00	Good source	

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
290: Riverwash-----	85	Not rated		Not rated	
300: Tennco-----	85	Poor source		Good source	
		Maximum pH >8.5	0.00		
		OM <.5%	0.00		
		SAR >13	0.00		
		EC >16 dS/m	0.00		
		K-factor .10-.35	0.37		
310: Vineland, drained-----	85	Poor source		Good source	
		Sand fractions >85%	0.00		
		WEG 1 or 2	0.00		
		OM <.5%	0.00		
		AWC 3-6" to a depth of 60"	0.98		
312: Vineland, drained-----	50	Poor source		Good source	
		Sand fractions >85%	0.00		
		WEG 1 or 2	0.00		
		OM <.5%	0.00		
		AWC 3-6" to a depth of 60"	0.98		
Bakersfield, drained-----	40	Poor source		Good source	
		OM <.5%	0.00		
		pH 4-6.5 to a depth of 40"	0.88		
		K-factor <.10; or null data	0.99		
		SAR <4; or null data	1.00		
320: Wasco-----	85	Poor source		Good source	
		OM <.5%	0.00		
330: Cuyama-----	85	Poor source		Good source	
		OM <.5%	0.00		
		Fragments >10" are 5-15%	0.32		
		SAR from 4-13	0.40		
		K-factor .10-.35	0.90		

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
331: Cuyama-----	85	Poor source OM <.5% Fragments >10" are 5-15% SAR from 4-13 K-factor .10-.35	 0.00 0.32 0.40 0.90	Good source	
332: Cuyama-----	85	Poor source OM <.5% Fragments >10" are 5-15% SAR from 4-13 K-factor .10-.35	 0.00 0.32 0.40 0.90	Fair source Slopes 15-25%	 0.08
340: Weedpatch-----	85	Poor source OM <.5% Maximum pH >8.5 Clay 27-40% SAR from 4-13 Calcium carbonates 15 to 40%	 0.00 0.00 0.50 0.78 0.92	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.67
350: Posochanet, saline-sodic-----	85	Poor source EC >16 dS/m SAR >13 OM <.5% Maximum pH >8.5 Clay >40% K-factor .10-.35	 0.00 0.00 0.00 0.00 0.00 0.68	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.75
351: Posochanet, saline-sodic-----	75	Poor source EC >16 dS/m SAR >13 OM <.5% Maximum pH >8.5 Clay >40% K-factor .10-.35	 0.00 0.00 0.00 0.00 0.00 0.90	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.75

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
352: Posochanet-----	70	Poor source EC >16 dS/m SAR >13 OM <.5% Maximum pH >8.5 Clay >40% K-factor .10-.35	0.00 0.00 0.00 0.00 0.00 0.68	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.75
Posochanet, partially reclaimed---	20	Poor source OM <.5% Clay >40% SAR from 4-13 K-factor .10-.35 EC 8-16 dS/m	0.00 0.00 0.60 0.68 0.72	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.75
360: Wheelridge-----	85	Poor source WEG 1 or 2 OM <.5% Maximum pH >8.5 AWC 3-6" to a depth of 60" Sand fractions 75-85%	0.00 0.00 0.00 0.13 0.76	Good source	
370: Whitewolf-----	85	Poor source WEG 1 or 2 OM <.5% Sand fractions 75-85% AWC 3-6" to a depth of 60"	0.00 0.00 0.76 0.76	Good source	
371: Whitewolf-----	85	Poor source WEG 1 or 2 OM <.5% Sand fractions 75-85% AWC 3-6" to a depth of 60"	0.00 0.00 0.76 0.76	Good source	
380: Zalvidea, partially drained-----	85	Poor source OM <.5%	0.00	Good source	
381: Zalvidea, partially drained-----	85	Poor source OM <.5%	0.00	Good source	

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
389: Xerofluvents-----	30	Fair source AWC 3-6" to a depth of 60" OM .5-1% Sand fractions 75-85%	0.01 0.68 0.76	Good source	
Haploxerepts-----	30	Poor source OM <.5% AWC >6" to a depth of 60"; or null data	0.00 1.00	Good source	
Riverwash-----	15	Not rated		Not rated	
390: Pleito-----	85	Good source		Good source	
391: Pleito-----	80	Good source		Good source	
392: Pleito-----	85	Good source		Good source	
393: Pleito-----	85	Good source		Fair source Slopes 15-25%	10.50
394: Pleito-----	45	Good source		Poor source Slopes >25%	10.00
Xeric Torriorthents, very gravelly	40	Poor source OM <.5% AWC <3" to a depth of 60" Fragments >10" are 5-15% SAR from 4-13	0.00 0.00 0.07 0.97	Poor source Depth to bedrock <40" Slopes >25%	10.00 10.00
395: Pleito-----	50	Good source		Poor source Slopes >25%	10.00
Emidio-----	20	Fair source pH 4-6.5 to a depth of 40"	0.76	Fair source LEP 3-9 Slopes 15-25%	10.77 10.98

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
395: Loslobos-----	15	Poor source OM <.5%	0.00	Poor source Slopes >25%	0.00
396: Pleito-----	60	Good source		Poor source Slopes >25%	0.00
Loslobos-----	25	Poor source OM <.5%	0.00	Poor source Slopes >25%	0.00
398: Calcic Haploxerepts-----	30	Poor source OM <.5% pH 4-6.5 to a depth of 40" K-factor <.10; or null data	0.00 0.92 0.99	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.00 0.67
Calcic Pachic Argixerolls, fine----	25	Fair source Clay 27-40% OM .5-1%	0.08 0.32	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.00 0.54
Xerorthents, shallow-----	20	Poor source AWC <3" to a depth of 60" OM .5-1% SAR from 4-13	0.00 0.08 0.90	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
400: Loslobos-----	35	Poor source OM <.5%	0.00	Poor source Slopes >25%	0.00
Xeric Torriorthents, very gravelly	25	Poor source OM <.5% AWC <3" to a depth of 60" Fragments >10" are 5-15% SAR from 4-13	0.00 0.00 0.07 0.97	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
Badlands-----	20	Not rated		Not rated	
401: Loslobos-----	85	Poor source OM <.5% K-factor <.10; or null data	0.00 0.99	Poor source Slopes >25%	0.00

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
402:					
Loslobos-----	40	Poor source OM <.5%	0.00	Good source	
Walong-----	30	Poor source AWC <3" to a depth of 60" OM <.5% Fragments >10" are >15%	0.00 0.00 0.00	Poor source Depth to bedrock <40"	0.00
403:					
Loslobos-----	45	Poor source OM <.5%	0.00	Poor source Slopes >25%	0.00
Calleguas-----	35	Poor source AWC <3" to a depth of 60" OM <.5% Clay 27-40% K-factor <.10; or null data SAR <4; or null data	0.00 0.00 0.98 0.99 1.00	Poor source Depth to bedrock <40" Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.00 0.00 0.67
404:					
Loslobos, moist-----	85	Poor source OM <.5%	0.00	Poor source Slopes >25%	0.00
430:					
Littlesignal-----	45	Poor source OM <.5% K-factor .10-.35	0.00 0.06	Fair source Slopes 15-25% Depth to bedrock 40-60"	0.08 0.82
Cochora-----	40	Poor source AWC <3" to a depth of 60" OM <.5% K-factor .10-.35	0.00 0.00 0.37	Poor source Depth to bedrock <40" Slopes 15-25%	0.00 0.08
431:					
Littlesignal-----	50	Poor source OM <.5% K-factor .10-.35	0.00 0.06	Poor source Slopes >25% Depth to bedrock 40-60"	0.00 0.82
Cochora-----	35	Poor source AWC <3" to a depth of 60" OM <.5% K-factor .10-.35	0.00 0.00 0.37	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00

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Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
432: Littlesignal-----	45	Poor source OM <.5% K-factor .10-.35	0.00 0.06	Poor source Slopes >25% Depth to bedrock 40-60"	0.00 0.74
Badlands-----	25	Not rated		Not rated	
Cochora-----	20	Poor source AWC <3" to a depth of 60" OM <.5% K-factor .10-.35	0.00 0.00 0.37	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
440: Elkhills-----	50	Poor source OM <.5% SAR <4; or null data	0.00 1.00	Poor source Slopes >25%	0.00
Pyxo-----	35	Poor source OM <.5% K-factor .10-.35 AWC 3-6" to a depth of 60" SAR from 4-13	0.00 0.68 0.73 0.97	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
441: Sodic Haplocambids, thick-----	60	Poor source OM <.5% SAR >13 Maximum pH >8.5 Clay >40% K-factor .10-.35 EC 8-16 dS/m	0.00 0.00 0.00 0.00 0.37 0.88	Poor source AASHTO GI >8 (low soil strength) Slopes 15-25% LEP 3-9	0.00 0.50 0.69
442: Elkhills-----	80	Poor source OM <.5% SAR <4; or null data	0.00 1.00	Good source	
443: Elkhills-----	40	Poor source OM <.5% SAR <4; or null data	0.00 1.00	Poor source Slopes >25%	0.00
Badlands-----	40	Not rated		Not rated	

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
444: Elkhills-----	90	Poor source OM <.5% SAR <4; or null data	 0.00 1.00	Fair source Slopes 15-25%	 0.18
445: Sodic Haplocambids, thick-----	45	Poor source OM <.5% SAR >13 Maximum pH >8.5 Clay >40% K-factor .10-.35 EC 8-16 dS/m	 0.00 0.00 0.00 0.00 0.37 0.88	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	 0.00 0.00 0.69
Elkhills-----	40	Poor source OM <.5% SAR <4; or null data	 0.00 1.00	Poor source Slopes >25%	 0.00
451: Beam-----	35	Poor source OM <.5% AWC <3" to a depth of 60" SAR from 4-13	 0.00 0.00 0.97	Poor source Depth to bedrock <40" Slopes >25%	 0.00 0.00
Panoza-----	30	Poor source OM <.5% AWC 3-6" to a depth of 60" K-factor .10-.35	 0.00 0.55 0.90	Poor source Slopes >25% Depth to bedrock <40" AASHTO GI 5-8 (soil strength)	 0.00 0.00 0.22
Hillbrick-----	15	Poor source OM <.5% AWC 3-6" to a depth of 60" K-factor .10-.35	 0.00 0.01 0.68	Poor source Depth to bedrock <40" Slopes >25%	 0.00 0.00
460: Geghus-----	50	Fair source OM .5-1% K-factor <.10; or null data	 0.50 0.99	Poor source AASHTO GI >8 (low soil strength) Slopes 15-25% LEP 3-9	 0.00 0.50 0.72
Tecuya-----	30	Poor source Fragments 3-10" >50% AWC 3-6" to a depth of 60" K-factor <.10; or null data	 0.00 0.99 0.99	Fair source AASHTO GI 5-8 (soil strength) Fragments >3" are 25-50%	 0.78 0.86

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
461: Geghus-----	50	Fair source OM .5-1% K-factor <.10; or null data	0.50 0.99	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.00 0.72
Tecuya-----	35	Poor source Fragments 3-10" >50% AWC 3-6" to a depth of 60" K-factor <.10; or null data	0.00 0.99 0.99	Poor source Slopes >25% AASHTO GI 5-8 (soil strength) Fragments >3" are 25-50%	0.00 0.78 0.86
462: Geghus-----	55	Fair source OM .5-1% K-factor <.10; or null data	0.50 0.99	Poor source Slopes >25% AASHTO GI >8 (low soil strength) Depth to bedrock 40-60" LEP 3-9	0.00 0.00 0.04 0.75
Xeric Torriorthents, very gravelly	30	Poor source OM <.5% AWC <3" to a depth of 60" Fragments >10" are 5-15% SAR from 4-13	0.00 0.00 0.07 0.97	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
470: Pyxo-----	55	Poor source OM <.5% K-factor .10-.35 AWC 3-6" to a depth of 60" SAR from 4-13	0.00 0.68 0.73 0.97	Poor source Depth to bedrock <40" Slopes 15-25%	0.00 0.08
Cochora-----	30	Poor source OM <.5% AWC <3" to a depth of 60" K-factor .10-.35	0.00 0.00 0.68	Poor source Depth to bedrock <40" Slopes 15-25%	0.00 0.08
471: Pyxo-----	40	Poor source OM <.5% AWC 3-6" to a depth of 60" K-factor .10-.35 SAR from 4-13	0.00 0.60 0.68 0.97	Poor source Slopes >25% Depth to bedrock <40"	0.00 0.00

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Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
471: Cochora-----	25	Poor source OM <.5% AWC <3" to a depth of 60" K-factor .10-.35	0.00 0.00 0.68	Poor source Depth to bedrock <40" Slopes 15-25%	0.00 0.08
Badlands-----	15	Not rated		Not rated	
472: Pyxo-----	30	Poor source OM <.5% K-factor .10-.35 AWC 3-6" to a depth of 60" SAR from 4-13	0.00 0.68 0.73 0.97	Poor source Depth to bedrock <40"	0.00
Kimberlina-----	30	Poor source OM <.5%	0.00	Good source	
Cochora-----	25	Poor source AWC <3" to a depth of 60" OM <.5% K-factor .10-.35	0.00 0.00 0.37	Poor source Depth to bedrock <40"	0.00
480: Pyxo, dry-----	45	Poor source OM <.5% K-factor .10-.35 AWC 3-6" to a depth of 60" SAR from 4-13	0.00 0.68 0.73 0.97	Poor source Slopes >25% Depth to bedrock <40"	0.00 0.00
Elkhills-----	35	Poor source OM <.5% SAR <4; or null data	0.00 1.00	Poor source Slopes >25%	0.00
490: Padres-----	65	Poor source OM <.5% K-factor .10-.35	0.00 0.90	Good source	
500: Bitcreek-----	85	Fair source Clay 27-40% SAR <4; or null data	0.82 1.00	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.45

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
510:					
Beam-----	35	Poor source		Poor source	
		OM <.5%	0.00	Depth to bedrock <40"	0.00
		AWC <3" to a depth of 60"	0.00	Slopes >25%	0.00
		SAR from 4-13	0.97		
Panoza-----	30	Poor source		Poor source	
		OM <.5%	0.00	Slopes >25%	0.00
		AWC 3-6" to a depth of 60"	0.55	Depth to bedrock <40"	0.00
		K-factor .10-.35	0.90	AASHTO GI 5-8 (soil strength)	0.22
Hillbrick-----	15	Poor source		Poor source	
		OM <.5%	0.00	Depth to bedrock <40"	0.00
		AWC 3-6" to a depth of 60"	0.01	Slopes >25%	0.00
		K-factor .10-.35	0.68		
511:					
Beam-----	35	Poor source		Poor source	
		OM <.5%	0.00	Depth to bedrock <40"	0.00
		AWC <3" to a depth of 60"	0.00	Slopes 15-25%	0.08
		SAR from 4-13	0.97		
Panoza-----	30	Poor source		Poor source	
		OM <.5%	0.00	Depth to bedrock <40"	0.00
		AWC 3-6" to a depth of 60"	0.55	Slopes 15-25%	0.08
		K-factor .10-.35	0.90	AASHTO GI 5-8 (soil strength)	0.22
Hillbrick-----	15	Poor source		Poor source	
		OM <.5%	0.00	Depth to bedrock <40"	0.00
		AWC 3-6" to a depth of 60"	0.01	Slopes 15-25%	0.08
		K-factor .10-.35	0.68		
515:					
Zonap-----	50	Poor source		Poor source	
		OM <.5%	0.00	Slopes >25%	0.00
		AWC 3-6" to a depth of 60"	0.39	Depth to bedrock <40"	0.00
Badlands-----	20	Not rated		Not rated	
Beam-----	15	Poor source		Poor source	
		AWC <3" to a depth of 60"	0.00	Depth to bedrock <40"	0.00
		OM <.5%	0.00	Slopes >25%	0.00
		SAR from 4-13	0.97		

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
516: Zonap-----	45	Poor source OM <.5% AWC 3-6" to a depth of 60" SAR <4; or null data	 0.00 0.39 1.00	Poor source Depth to bedrock <40" Slopes 15-25%	 0.00 0.08
Beam-----	40	Poor source AWC <3" to a depth of 60" OM <.5% SAR from 4-13	 0.00 0.00 0.97	Poor source Depth to bedrock <40" Slopes 15-25%	 0.00 0.12
530: Tehachapi-----	80	Poor source Fragments >10" are >15% pH 4-6.5 to a depth of 40" Clay 27-40%	 0.00 0.92 0.98	Good source	
531: Tehachapi-----	85	Poor source Fragments >10" are >15% pH 4-6.5 to a depth of 40" Clay 27-40%	 0.00 0.92 0.98	Fair source Slopes 15-25%	 0.82
540: Xeric Torriorthents-----	50	Poor source OM <.5% AWC 3-6" to a depth of 60"	 0.00 0.00	Poor source Slopes >25% Depth to bedrock 40-60"	 0.00 0.07
Badlands-----	25	Not rated		Not rated	
550: Elkhills-----	45	Poor source OM <.5% SAR <4; or null data	 0.00 1.00	Fair source Slopes 15-25%	 0.50
Welport-----	45	Poor source AWC <3" to a depth of 60" Depth to pan <20" Maximum pH >8.5 Calcium carbonates 15 to 40% K-factor <.10; or null data SAR <4; or null data	 0.00 0.00 0.00 0.84 0.99 1.00	Poor source Depth to pan <40"	 0.00

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
560: Laval-----	44	Poor source Maximum pH >8.5 AWC <3" to a depth of 60"	0.00 0.00	Good source	
Pleitito-----	44	Fair source OM .5-1% K-factor <.10; or null data	0.92 0.99	Good source	
561: Laval-----	45	Poor source Maximum pH >8.5 AWC <3" to a depth of 60"	0.00 0.00	Good source	
Pleitito-----	45	Fair source OM .5-1% K-factor <.10; or null data	0.92 0.99	Good source	
570: Hillbrick-----	65	Poor source OM <.5% AWC 3-6" to a depth of 60" K-factor .10-.35	0.00 0.01 0.68	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
571: Hillbrick-----	65	Poor source OM <.5% AWC 3-6" to a depth of 60" K-factor .10-.35	0.00 0.01 0.68	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
580: Reward-----	45	Good source		Fair source Slopes 15-25%	0.08
Hillbrick-----	45	Poor source AWC <3" to a depth of 60" OM <.5%	0.00 0.00	Poor source Depth to bedrock <40" Slopes 15-25%	0.00 0.08
581: Reward-----	85	Good source		Poor source Slopes >25%	0.00

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
583: Bellyspring-----	35	Poor source OM <.5% K-factor <.10; or null data AWC 3-6" to a depth of 60"	 0.00 0.99 1.00	Poor source Depth to bedrock <40"	 0.00
Panoza-----	25	Poor source OM <.5% AWC 3-6" to a depth of 60" K-factor .10-.35	 0.00 0.55 0.90	Poor source Depth to bedrock <40" AASHTO GI 5-8 (soil strength)	 0.00 0.22
584: Bellyspring-----	35	Poor source OM <.5% K-factor <.10; or null data AWC 3-6" to a depth of 60"	 0.00 0.99 1.00	Poor source Depth to bedrock <40" Slopes 15-25%	 0.00 0.08
Panoza-----	30	Poor source OM <.5% AWC 3-6" to a depth of 60" K-factor .10-.35	 0.00 0.55 0.90	Poor source Depth to bedrock <40" Slopes 15-25% AASHTO GI 5-8 (soil strength)	 0.00 0.08 0.22
585: Bellyspring-----	35	Poor source OM <.5% K-factor <.10; or null data AWC 3-6" to a depth of 60"	 0.00 0.99 1.00	Poor source Slopes >25% Depth to bedrock <40"	 0.00 0.00
Panoza-----	30	Poor source OM <.5% AWC 3-6" to a depth of 60" K-factor .10-.35	 0.00 0.55 0.90	Poor source Slopes >25% Depth to bedrock <40" AASHTO GI 5-8 (soil strength)	 0.00 0.00 0.22
586: Panoza-----	40	Poor source OM <.5% AWC 3-6" to a depth of 60" K-factor .10-.35	 0.00 0.55 0.90	Poor source Depth to bedrock <40" Slopes 15-25% AASHTO GI 5-8 (soil strength)	 0.00 0.08 0.22
Beam-----	30	Poor source OM <.5% AWC <3" to a depth of 60" SAR from 4-13	 0.00 0.00 0.97	Poor source Depth to bedrock <40" Slopes 15-25%	 0.00 0.08

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
587: Panoza-----	40	Poor source OM <.5% AWC 3-6" to a depth of 60" K-factor .10-.35	0.00 0.55 0.90	Poor source Slopes >25% Depth to bedrock <40" AASHTO GI 5-8 (soil strength)	0.00 0.00 0.22
Beam-----	30	Poor source OM <.5% AWC <3" to a depth of 60" SAR from 4-13	0.00 0.00 0.97	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
588: Panoza-----	40	Poor source OM <.5% AWC 3-6" to a depth of 60" K-factor .10-.35	0.00 0.55 0.90	Poor source Slopes >25% Depth to bedrock <40" AASHTO GI 5-8 (soil strength)	0.00 0.00 0.22
Beam-----	30	Poor source OM <.5% AWC <3" to a depth of 60" SAR from 4-13	0.00 0.00 0.97	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
590: Gorman-----	35	Fair source OM .5-1% pH 4-6.5 to a depth of 40"	0.50 0.92	Poor source Slopes >25% LEP 3-9	0.00 0.75
Typic Xerorthents, mesic-----	30	Poor source OM <.5% Maximum pH >8.5 AWC 3-6" to a depth of 60" K-factor .10-.35 SAR from 4-13	0.00 0.00 0.63 0.90 0.97	Poor source Slopes >25% Depth to bedrock <40"	0.00 0.00
Xerorthents, shallow-----	20	Poor source AWC <3" to a depth of 60" OM .5-1% SAR from 4-13	0.00 0.08 0.90	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
591: Geghus-----	40	Fair source OM .5-1% K-factor <.10; or null data	0.50 0.99	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.00 0.72

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
591: Selby-----	40	Poor source		Poor source	
		AWC <3" to a depth of 60"	0.00	Slopes >25%	0.00
		OM <.5%	0.00	Depth to bedrock <40"	0.00
		Fragments 3-10" are 25-50%	0.31	Fragments >3" are 25-50%	0.95
600: Positas-----	45	Poor source		Poor source	
		Clay >40%	0.00	AASHTO GI >8 (low soil strength)	0.00
		OM .5-1%	0.08	LEP 3-9	0.74
		K-factor .10-.35	0.90		
Bitcreek-----	35	Fair source		Poor source	
		Clay 27-40%	0.82	AASHTO GI >8 (low soil strength)	0.00
		SAR <4; or null data	1.00	LEP 3-9	0.45
610: Balcom-----	55	Poor source		Poor source	
		OM <.5%	0.00	Slopes >25%	0.00
		K-factor .10-.35	0.90	Depth to bedrock <40"	0.00
		Calcium carbonates 15 to 40%	0.92	AASHTO GI 5-8 (soil strength)	0.78
Rock outcrop-----	20	Not rated		Not rated	
620: Typic Xerorthents, mesic-----	40	Poor source		Poor source	
		OM <.5%	0.00	Slopes >25%	0.00
		Maximum pH >8.5	0.00	Depth to bedrock <40"	0.00
		AWC 3-6" to a depth of 60"	0.63		
		K-factor .10-.35	0.90		
		SAR from 4-13	0.97		
Haploxerepts-----	40	Poor source		Poor source	
		OM <.5%	0.00	Slopes >25%	0.00
		AWC >6" to a depth of 60"; or null data	1.00		
Xerorthents, sandy-----	18	Poor source		Poor source	
		WEG 1 or 2	0.00	Slopes >25%	0.00
		AWC 3-6" to a depth of 60"	0.00	Depth to bedrock 40-60"	0.01
		Sand fractions 75-85%	0.76		

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
640:					
Bitcreek-----	40	Fair source Clay 27-40% SAR <4; or null data	0.82 1.00	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.00 0.45
Dibble-----	30	Poor source OM <.5% Clay 27-40% AWC 3-6" to a depth of 60"	0.00 0.02 0.87	Poor source Depth to bedrock <40" Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.00 0.00 0.80
Eaglerest-----	15	Poor source AWC <3" to a depth of 60" OM <.5% K-factor .10-.35 SAR <4; or null data	0.00 0.00 0.90 1.00	Poor source Depth to bedrock <40" Slopes 15-25%	0.00 0.12
650:					
Lithic Argixerolls-----	50	Poor source AWC <3" to a depth of 60" Fragments >10" are >15%	0.00 0.00	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
Lithic Xerorthents, mesic-----	25	Poor source Fragments >10" are >15% AWC <3" to a depth of 60" OM .5-1% Fragments 3-10" are 25-50%	0.00 0.00 0.50 0.92	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
660:					
Elkhills-----	70	Poor source OM <.5% SAR <4; or null data	0.00 1.00	Fair source Slopes 15-25%	0.08
Legray-----	20	Poor source OM <.5% AWC 3-6" to a depth of 60" SAR <4; or null data	0.00 0.72 1.00	Fair source Slopes 15-25%	0.12
661:					
Elkhills-----	40	Poor source OM <.5% SAR <4; or null data	0.00 1.00	Poor source Slopes >25%	0.00

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
661: Legray-----	40	Poor source OM <.5% AWC 3-6" to a depth of 60" SAR <4; or null data	 0.00 0.72 1.00	Poor source Slopes >25%	 0.00
670: Harrisranch-----	60	Good source		Poor source Slopes >25%	 0.00
Rock outcrop-----	20	Not rated		Not rated	
680: Milham-----	90	Poor source OM <.5% Maximum pH >8.5	 0.00 0.00	Fair source LEP 3-9	 0.91
690: Dibble-----	45	Poor source OM <.5% Clay 27-40% AWC 3-6" to a depth of 60"	 0.00 0.02 0.87	Poor source Slopes >25% Depth to bedrock <40" AASHTO GI >8 (low soil strength) LEP 3-9	 0.00 0.00 0.00 0.80
Geghus-----	40	Fair source OM .5-1% K-factor <.10; or null data	 0.50 0.99	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	 0.00 0.00 0.72
700: Xerolls, loamy-skeletal-----	55	Poor source OM <.5% AWC 3-6" to a depth of 60" Fragments 3-10" are 25-50%	 0.00 0.05 0.46	Poor source Slopes >25% Fragments >3" are 25-50%	 0.00 0.72
Los Gatos-----	30	Poor source OM <.5% AWC 3-6" to a depth of 60" pH 4-6.5 to a depth of 40" SAR <4; or null data	 0.00 0.16 0.60 1.00	Poor source Slopes >25% Depth to bedrock <40" LEP 3-9	 0.00 0.00 0.96
720: Friant-----	50	Poor source AWC <3" to a depth of 60"	 0.00	Poor source Depth to bedrock <40" Slopes >25%	 0.00 0.00

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
720: Geghus-----	20	Fair source OM .5-1% K-factor <.10; or null data	0.50 0.99	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.00 0.72
Lithic Xerorthents, thermic-----	20	Poor source AWC <3" to a depth of 60" OM .5-1%	0.00 0.50	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
724: Elkhills-----	90	Poor source OM <.5% SAR <4; or null data	0.00 1.00	Poor source Slopes >25%	0.00
725: Sodic Haplocambids, thick-----	85	Poor source OM <.5% SAR >13 Maximum pH >8.5 Clay >40% K-factor .10-.35 EC 8-16 dS/m	0.00 0.00 0.00 0.00 0.37 0.88	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.69
726: Sodic Haplocambids, thick-----	90	Poor source Clay >40% OM <.5% SAR >13 Maximum pH >8.5 K-factor .10-.35 EC 8-16 dS/m	0.00 0.00 0.00 0.00 0.37 0.88	Poor source AASHTO GI >8 (low soil strength) Slopes 15-25% LEP 3-9	0.00 0.08 0.69
727: Sodic Haplocambids, thick-----	90	Poor source OM <.5% SAR >13 Maximum pH >8.5 Clay >40% K-factor .10-.35 EC 8-16 dS/m	0.00 0.00 0.00 0.00 0.37 0.88	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.00 0.69

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
728: Torriorthents, very thin-----	85	Poor source		Poor source	
		OM <.5%	0.00	Slopes >25%	0.00
		EC >16 dS/m	0.00	Depth to bedrock <40"	0.00
		SAR >13	0.00	AASHTO GI >8 (low soil strength)	0.00
		Maximum pH >8.5	0.00	LEP 3-9	0.67
		AWC 3-6" to a depth of 60"	0.23		
		Clay 27-40%	0.82		
729: Sodic Haplocambids, thick-----	40	Poor source		Poor source	
		OM <.5%	0.00	Slopes >25%	0.00
		SAR >13	0.00	AASHTO GI >8 (low soil strength)	0.00
		Maximum pH >8.5	0.00	LEP 3-9	0.69
		Clay >40%	0.00		
		K-factor .10-.35	0.37		
		EC 8-16 dS/m	0.88		
Torriorthents, thin-----	30	Poor source		Poor source	
		OM <.5%	0.00	Slopes >25%	0.00
		EC >16 dS/m	0.00	AASHTO GI >8 (low soil strength)	0.00
		SAR >13	0.00	LEP 3-9	0.56
		Maximum pH >8.5	0.00		
		Clay 27-40%	0.32		
		K-factor .10-.35	0.90		
Torriorthents, very thin, eroded--	15	Poor source		Poor source	
		OM <.5%	0.00	Depth to bedrock <40"	0.00
		EC >16 dS/m	0.00	Slopes >25%	0.00
		SAR >13	0.00	AASHTO GI >8 (low soil strength)	0.00
		Maximum pH >8.5	0.00	LEP 3-9	0.67
		AWC 3-6" to a depth of 60"	0.23		
		Clay 27-40%	0.82		
730: Haplocambids, thick-----	50	Poor source		Good source	
		OM <.5%	0.00		
		Maximum pH >8.5	0.00		
		EC 8-16 dS/m	0.03		
		SAR from 4-13	0.97		
		K-factor <.10; or null data	0.99		
Elkhills-----	30	Poor source		Good source	
		OM <.5%	0.00		
		SAR <4; or null data	1.00		

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
731: Haplocambids, thick-----	45	Poor source OM <.5% Maximum pH >8.5 EC 8-16 dS/m SAR from 4-13 K-factor <.10; or null data	 0.00 0.00 0.03 0.22 0.99	Fair source Slopes 15-25%	 0.08
Elkhills-----	40	Poor source OM <.5% SAR <4; or null data	 0.00 1.00	Fair source Slopes 15-25%	 0.08
732: Elkhills-----	50	Poor source OM <.5% SAR <4; or null data	 0.00 1.00	Poor source Slopes >25%	 0.00
Haplocambids, thick-----	40	Poor source OM <.5% Maximum pH >8.5 EC 8-16 dS/m SAR from 4-13 K-factor <.10; or null data	 0.00 0.00 0.03 0.22 0.99	Poor source Slopes >25%	 0.00
733: Sodic Haplocambids, thick-----	50	Poor source OM <.5% SAR >13 Maximum pH >8.5 Clay >40% K-factor .10-.35 EC 8-16 dS/m	 0.00 0.00 0.00 0.00 0.37 0.88	Poor source AASHTO GI >8 (low soil strength) Slopes 15-25% LEP 3-9	 0.00 0.08 0.69
Torriorthents, thin-----	35	Poor source OM <.5% EC >16 dS/m SAR >13 Maximum pH >8.5 Clay 27-40% K-factor .10-.35	 0.00 0.00 0.00 0.00 0.32 0.90	Poor source AASHTO GI >8 (low soil strength) Slopes 15-25% LEP 3-9	 0.00 0.08 0.56

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
734: Sodic Haplocambids, thick-----	40	Poor source OM <.5% SAR >13 Maximum pH >8.5 Clay >40% K-factor .10-.35 EC 8-16 dS/m	 0.00 0.00 0.00 0.00 0.37 0.88	Poor source AASHTO GI >8 (low soil strength) Slopes >25% LEP 3-9	 0.00 0.00 0.69
Torriorthents, very thin, eroded--	25	Poor source OM <.5% EC >16 dS/m SAR >13 Maximum pH >8.5 AWC 3-6" to a depth of 60" K-factor <.10; or null data	 0.00 0.00 0.00 0.00 0.23 0.99	Poor source Depth to bedrock <40" Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	 0.00 0.00 0.00 0.67
Elkhills-----	24	Poor source OM <.5% SAR <4; or null data	 0.00 1.00	Poor source Slopes >25%	 0.00
735: Sodic Haplocambids, thick-----	40	Poor source Clay >40% OM <.5% SAR >13 Maximum pH >8.5 K-factor .10-.35 EC 8-16 dS/m	 0.00 0.00 0.00 0.00 0.37 0.88	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	 0.00 0.00 0.69
Elkhills-----	25	Poor source OM <.5% SAR <4; or null data	 0.00 1.00	Poor source Slopes >25%	 0.00
Torriorthents, thin-----	20	Poor source OM <.5% EC >16 dS/m SAR >13 Maximum pH >8.5 Clay 27-40% K-factor .10-.35	 0.00 0.00 0.00 0.00 0.32 0.90	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	 0.00 0.00 0.56

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Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
750: Ballinger-----	85	Poor source Clay >40% EC 8-16 dS/m AWC 3-6" to a depth of 60" OM .5-1% SAR from 4-13	 0.00 0.03 0.16 0.50 0.97	Poor source AASHTO GI >8 (low soil strength) Depth to bedrock <40" Slopes 15-25% LEP 3-9	 0.00 0.00 0.08 0.67
760: Ballinger-----	85	Poor source Clay >40% EC 8-16 dS/m AWC 3-6" to a depth of 60" OM .5-1% SAR from 4-13	 0.00 0.03 0.16 0.50 0.97	Poor source Slopes >25% AASHTO GI >8 (low soil strength) Depth to bedrock <40" LEP 3-9	 0.00 0.00 0.00 0.67
780: Stutzville-----	85	Poor source OM <.5% EC >16 dS/m SAR from 4-13 K-factor .10-.35	 0.00 0.00 0.00 0.90	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	 0.00 0.42
850: Xerofluvents-----	85	Fair source AWC 3-6" to a depth of 60" OM .5-1% Sand fractions 75-85%	 0.01 0.68 0.76	Good source	
860: Hawk-----	90	Fair source pH 4-6.5 to a depth of 40" AWC 3-6" to a depth of 60"	 0.60 0.64	Good source	
870: Frazier-----	80	Poor source AWC <3" to a depth of 60" OM <.5%	 0.00 0.00	Poor source Slopes >25% Depth to bedrock <40"	 0.00 0.00
880: Chuchupate-----	90	Poor source OM <.5% AWC <3" to a depth of 60" pH 4-6.5 to a depth of 40"	 0.00 0.00 0.80	Poor source Slopes >25% Depth to bedrock <40"	 0.00 0.00

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
890:					
Gorman-----	90	Fair source		Poor source	
		OM .5-1%	0.50	Slopes >25%	0.00
		pH 4-6.5 to a depth of 40"	0.92	LEP 3-9	0.75
919:					
Zonap-----	40	Poor source		Poor source	
		OM <.5%	0.00	Depth to bedrock <40"	0.00
		AWC 3-6" to a depth of 60"	0.39	Slopes >25%	0.00
		SAR <4; or null data	1.00		
Harrisranch-----	30	Good source		Poor source	
				Slopes >25%	0.00
Beam-----	15	Poor source		Poor source	
		AWC <3" to a depth of 60"	0.00	Depth to bedrock <40"	0.00
		OM <.5%	0.00	Slopes >25%	0.00
930:					
Bitcreek-----	40	Fair source		Poor source	
		Clay 27-40%	0.82	Slopes >25%	0.00
		SAR <4; or null data	1.00	AASHTO GI >8 (low soil strength)	0.00
				LEP 3-9	0.45
Shimmon-----	25	Fair source		Poor source	
		AWC 3-6" to a depth of 60"	0.02	Depth to bedrock <40"	0.00
		Clay 27-40%	0.92	Slopes >25%	0.00
		K-factor <.10; or null data	0.99	LEP 3-9	0.67
				AASHTO GI 5-8 (soil strength)	0.78
Balhud-----	15	Poor source		Poor source	
		AWC <3" to a depth of 60"	0.00	Depth to bedrock <40"	0.00
		Clay 27-40%	0.82	Slopes >25%	0.00
		K-factor .10-.35	0.90		
932:					
Bitcreek-----	40	Fair source		Poor source	
		Clay 27-40%	0.82	Slopes >25%	0.00
		SAR <4; or null data	1.00	AASHTO GI >8 (low soil strength)	0.00
				LEP 3-9	0.45
Shimmon-----	25	Fair source		Poor source	
		AWC 3-6" to a depth of 60"	0.02	Slopes >25%	0.00
		Clay 27-40%	0.92	Depth to bedrock <40"	0.00
		K-factor <.10; or null data	0.99	LEP 3-9	0.67
				AASHTO GI 5-8 (soil strength)	0.78

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
932: Balhud-----	20	Poor source AWC <3" to a depth of 60" Clay 27-40% K-factor .10-.35	0.00 0.82 0.90	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
940: Bitcreek-----	90	Fair source Clay 27-40% SAR <4; or null data	0.82 1.00	Poor source AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.45
950: Pleito-----	40	Good source		Poor source Slopes >25%	0.00
Ballinger-----	25	Poor source Clay >40% OM <.5% EC 8-16 dS/m AWC 3-6" to a depth of 60" SAR from 4-13	0.00 0.00 0.03 0.51 0.97	Poor source AASHTO GI >8 (low soil strength) Depth to bedrock <40" Slopes >25% LEP 3-9	0.00 0.00 0.00 0.67
Balhud-----	20	Poor source AWC <3" to a depth of 60" Clay 27-40% K-factor .10-.35	0.00 0.82 0.90	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
951: Bitcreek-----	40	Fair source Clay 27-40% SAR <4; or null data	0.82 1.00	Poor source AASHTO GI >8 (low soil strength) LEP 3-9 Slopes 15-25%	0.00 0.45 0.92
Balhud-----	30	Poor source AWC <3" to a depth of 60" Clay 27-40% K-factor .10-.35	0.00 0.82 0.90	Poor source Depth to bedrock <40"	0.00
Ballinger-----	15	Poor source Clay >40% OM <.5% EC 8-16 dS/m AWC 3-6" to a depth of 60" SAR from 4-13	0.00 0.00 0.03 0.51 0.97	Poor source AASHTO GI >8 (low soil strength) Depth to bedrock <40" LEP 3-9	0.00 0.00 0.67

Table 12b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
954:					
Typic Haploxeralfs, fine-----	50	Poor source AWC <3" to a depth of 60" Clay 27-40% OM .5-1%	0.00 0.02 0.50	Poor source Depth to bedrock <40" Slopes >25% LEP 3-9	0.00 0.00 0.49
Haploxerolls, coarse-loamy-----	30	Poor source OM <.5% AWC <3" to a depth of 60" Fragments >10" are 5-15% Fragments 3-10" are 25-50%	0.00 0.00 0.14 0.36	Poor source Depth to bedrock <40" Slopes >25% Fragments >3" are 25-50%	0.00 0.00 0.74
955:					
Calcic Haploxerepts-----	30	Poor source OM <.5% pH 4-6.5 to a depth of 40" K-factor <.10; or null data	0.00 0.92 0.99	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.00 0.67
Xerorthents, shallow-----	25	Poor source AWC <3" to a depth of 60" OM .5-1%	0.00 0.08	Poor source Depth to bedrock <40" Slopes >25%	0.00 0.00
Badlands-----	20	Not rated		Not rated	
970:					
Harrisranch-----	50	Good source		Poor source Slopes >25%	0.00
Bitcreek-----	35	Fair source Clay 27-40% SAR <4; or null data	0.82 1.00	Poor source Slopes >25% AASHTO GI >8 (low soil strength) LEP 3-9	0.00 0.00 0.45
980:					
Area not surveyed, access denied--	100	Not rated		Not rated	
W:					
Water-----	100	Not rated		Not rated	

The interpretation for reclamation material evaluates the following soil properties and characteristics: content of sand, clay, and rock fragments; content of organic matter (OM); Wind Erodibility Group (WEG); available water capacity (AWC); pH; salinity (EC); content of sodium (SAR); carbonates; and susceptibility of the soil to water erosion (K factor).

The interpretation for roadfill evaluates the following soil properties and characteristics: shrink-swell potential expressed as linear extensibility percent (LEP), depth to bedrock or a cemented pan, wetness, slope, soil strength expressed as AASHTO group index number (AASHTO GI), and content of rock fragments.

Table 13a.--Sanitary Facilities (Part 1)

[The information in this table is based on interpretations developed by the Pacific Southwest MLRA Office. The information indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. The rating is based on the limitation with the highest value. Only the three highest value limitations are listed. There may be more limitations. Fine-earth fractions and coarse fragments are reported on the basis of weight. An explanation of the rating criteria and of the abbreviations used in describing the limitations is given at the end of the table]

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
101: Bakersfield, drained-----	80	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Rare flooding	1.00 0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
102: Bakersfield, partially drained----	85	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Saturation at 4-6'	1.00 0.50 0.43	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
110: Buttonwillow, partially drained---	75	Limitations Permeability <.6"/hr in 24-60" (slow perc) Saturation at 4-6' Rare flooding	1.00 0.43 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
120: Granoso-----	85	Limitations Permeability >6"/hr in 24-60" (seepage and poor filter) Seepage in bottom layer Rare flooding	1.00 1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
121: Granoso-----	85	Limitations Permeability >6"/hr in 24-60" (seepage and poor filter) Seepage in bottom layer Rare flooding	1.00 1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding Slopes 2-8%	1.00 0.50 0.33
122: Granoso, loamy substratum-----	85	Limitations Seepage in bottom layer Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50

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Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
123: Granoso-----	85	Limitations Permeability >6"/hr in 24-60" (seepage and poor filter) Seepage in bottom layer Rare flooding	1.00 1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
124: Granoso-----	90	Limitations Permeability >6"/hr in 24-60" (seepage and poor filter) Seepage in bottom layer Rare flooding	1.00 1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
130: Cerini-----	85	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Rare flooding	1.00 0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
131: Calflax-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding	1.00 0.40	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50
132: Cerini-----	85	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Rare flooding	1.00 0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
133: Calflax-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
134: Cerini-----	85	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Rare flooding	1.00 0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding Slopes 2-8%	1.00 0.50 0.17

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
140: Copus silty clay, partially drained-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Saturation at 4-6' Rare flooding	1.00 0.40 0.40	Limitations Rare flooding	0.50
141: Copus clay, partially drained----	95	Limitations Permeability <.6"/hr in 24-60" (slow perc) Saturation at 4-6' Rare flooding	1.00 0.40 0.40	Limitations Rare flooding	0.50
150: Excelsior-----	85	Limitations Permeability .6-2"/hr (slow perc) Rare flooding	0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
151: Excelsior, saline-sodic-----	85	Limitations Permeability .6-2"/hr (slow perc) Rare flooding	0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
152: Excelsior-----	85	Limitations Permeability .6-2"/hr (slow perc) Rare flooding	0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
153: Tupman-----	80	Limitations Seepage in bottom layer Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
154: Tupman-----	70	Limitations Seepage in bottom layer Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding Slopes 2-8%	1.00 0.50 0.17
Urban land-----	20	Not rated		Not rated	

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
160: Fages-----	80	Limitations Permeability <.6"/hr in 24-60" (slow perc) Saturation at 4-6' Rare flooding	1.00 0.43 0.40	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50
179: Padres-----	70	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Permeability >2"/hr (seepage)	1.00
180: Garces-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Seepage in bottom layer Rare flooding	1.00 1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
190: Guijarral-----	85	Limitations Permeability .6-2"/hr (slow perc) Rare flooding	0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
191: Guijarral-----	85	Limitations Permeability .6-2"/hr (slow perc) Rare flooding	0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding Slopes 2-8%	1.00 0.50 0.33
192: Guijarral-----	45	Limitations Permeability .6-2"/hr (slow perc) Rare flooding	0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding Slopes 2-8%	1.00 0.50 0.25
Klipstein-----	45	Limitations Seepage in bottom layer Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding Slopes 2-8%	1.00 0.50 0.17
193: Guijarral-----	85	Limitations Permeability .6-2"/hr (slow perc)	0.50	Limitations Permeability >2"/hr (seepage) Slopes 2-8%	1.00 0.17

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
195: Guijarral, extremely gravelly substratum-----	60	Limitations Permeability .6-2"/hr (slow perc)	0.50	Limitations Permeability >2"/hr (seepage) Slopes 2-8%	1.00 0.83
Guijarral-----	30	Limitations Permeability .6-2"/hr (slow perc)	0.50	Limitations Permeability >2"/hr (seepage) Slopes 2-8%	1.00 0.83
197: Klipstein-----	60	Limitations Seepage in bottom layer Rare flooding Slopes 8-15%	1.00 0.40 0.16	Limitations Permeability >2"/hr (seepage) Slopes >8% Rare flooding	1.00 1.00 0.50
Guijarral-----	25	Limitations Permeability .6-2"/hr (slow perc) Rare flooding Slopes 8-15%	0.50 0.40 0.16	Limitations Permeability >2"/hr (seepage) Slopes >8% Rare flooding	1.00 1.00 0.50
200: Hesperia-----	85	Limitations Seepage in bottom layer Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
201: Hesperia-----	85	Limitations Seepage in bottom layer Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
210: Kimberlina-----	85	Limitations Permeability .6-2"/hr (slow perc) Rare flooding	0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
211: Kimberlina-----	80	Limitations Seepage in bottom layer Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding Slopes 2-8%	1.00 0.50 0.17
212: Kimberlina, saline-sodic-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding	1.00 0.40	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
214: Kimberlina-----	85	Limitations Seepage in bottom layer Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
215: Kimberlina-----	85	Limitations Seepage in bottom layer	1.00	Limitations Permeability >2"/hr (seepage) Slopes 2-8%	1.00 0.83
216: Kimberlina, occasionally flooded---	50	Limitations Flooding Seepage in bottom layer	1.00 1.00	Limitations Flooding >= occasional Permeability >2"/hr (seepage) Slopes 2-8%	1.00 1.00 0.17
Granoso, occasionally flooded-----	35	Limitations Flooding Permeability >6"/hr in 24-60" (seepage and poor filter) Seepage in bottom layer	1.00 1.00 1.00	Limitations Flooding >= occasional Permeability >2"/hr (seepage)	1.00 1.00
217: Kimberlina-----	50	Limitations Seepage in bottom layer Very rare flooding	1.00 0.20	Limitations Permeability >2"/hr (seepage) Slopes 2-8%	1.00 0.17
Urban land-----	35	Not rated		Not rated	
219: Xerorthents-----	50	Limitations Depth to bedrock <40" Slopes >15% Seepage in bottom layer	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
Badlands-----	35	Not rated		Not rated	
220: Lokern, drained-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding	1.00 0.40	Limitations Rare flooding	0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
221: Lokern, partially drained-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Saturation at 4-6' Rare flooding	1.00 0.84 0.40	Limitations Rare flooding Saturation from 3.5 to 5' depth	0.50 0.17
230: Milagro-----	85	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Rare flooding	1.00 0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
231: Milagro-----	85	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Rare flooding	1.00 0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
240: Millox, partially drained-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding Saturation at 4-6'	1.00 0.40 0.08	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50
241: Millox, partially drained, nonsaline-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding Saturation at 4-6'	1.00 0.40 0.08	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50
242: Millox, partially drained-----	55	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding Saturation at 4-6'	1.00 0.40 0.08	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50
Tennco-----	35	Limitations Permeability .6-2"/hr (slow perc) Rare flooding	0.50 0.40	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
243: Millox, partially drained-----	50	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding Saturation at 4-6'	1.00 0.40 0.08	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50
Zalvidea, partially drained-----	35	Limitations Permeability <.6"/hr in 24-60" (slow perc) Saturation at 4-6' Rare flooding	1.00 0.43 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
246: Whitewolf-----	85	Limitations Seepage in bottom layer Permeability >6"/hr in 24-60" (seepage and poor filter) Rare flooding	1.00 1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
250: Oldriver-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
251: Oldriver, partially drained, sodic	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
260: Panoche-----	85	Limitations Permeability .6-2"/hr (slow perc) Rare flooding	0.50 0.40	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50
270: Pits-----	50	Not rated		Not rated	
Dumps-----	50	Not rated		Not rated	
280: Premier-----	85	Limitations Seepage in bottom layer Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
281: Premier-----	85	Limitations Seepage in bottom layer Very rare flooding	1.00 0.20	Limitations Permeability >2"/hr (seepage) Slopes 2-8%	1.00 0.33
290: Riverwash-----	85	Not rated		Not rated	
300: Tennco-----	85	Limitations Permeability .6-2"/hr (slow perc) Rare flooding	0.50 0.40	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50
310: Vineland, drained-----	85	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Rare flooding	1.00 0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
312: Vineland, drained-----	50	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Rare flooding	1.00 0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
Bakersfield, drained-----	40	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Rare flooding	1.00 0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
320: Wasco-----	85	Limitations Seepage in bottom layer Rare flooding	1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
330: Cuyama-----	85	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Rare flooding	1.00 0.50 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding Slopes 2-8%	1.00 0.50 0.17
331: Cuyama-----	85	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Slopes 8-15%	1.00 0.50 0.16	Limitations Permeability >2"/hr (seepage) Slopes >8%	1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
332: Cuyama-----	85	Limitations Slopes >15% Seepage in bottom layer Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
340: Weedpatch-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding	1.00 0.40	Limitations Rare flooding	0.50
350: Posochanet, saline-sodic-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding	1.00 0.40	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50
351: Posochanet, saline-sodic-----	75	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding	1.00 0.40	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50
352: Posochanet-----	70	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding	1.00 0.40	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50
Posochanet, partially reclaimed---	20	Limitations Permeability <.6"/hr in 24-60" (slow perc) Rare flooding	1.00 0.40	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50
360: Wheelridge-----	85	Limitations Permeability >6"/hr in 24-60" (seepage and poor filter) Seepage in bottom layer Rare flooding	1.00 1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
370: Whitewolf-----	85	Limitations Seepage in bottom layer Permeability >6"/hr in 24-60" (seepage and poor filter) Rare flooding	1.00 1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
371: Whitewolf-----	85	Limitations Seepage in bottom layer Permeability >6"/hr in 24-60" (seepage and poor filter) Rare flooding	1.00 1.00 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding Slopes 2-8%	1.00 0.50 0.17
380: Zalvidea, partially drained-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Saturation at 4-6' Rare flooding	1.00 0.43 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
381: Zalvidea, partially drained-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Saturation at 4-6' Rare flooding	1.00 0.43 0.40	Limitations Permeability >2"/hr (seepage) Rare flooding	1.00 0.50
389: Xerofluvents-----	30	Limitations Flooding Seepage in bottom layer	1.00 1.00	Limitations Flooding >= occasional Permeability >2"/hr (seepage) Slopes 2-8%	1.00 1.00 0.50
Haploxerepts-----	30	Limitations Permeability .6-2"/hr (slow perc) Rare flooding	0.50 0.40	Limitations Slopes 2-8% Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50 0.50
Riverwash-----	15	Not rated		Not rated	
390: Pleito-----	85	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Rare flooding	1.00 0.50 0.40	Limitations Permeability .6-2"/hr (some seepage) Rare flooding	0.50 0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
391: Pleito-----	80	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc) Rare flooding	1.00 0.50 0.40	Limitations Permeability .6-2"/hr (some seepage) Rare flooding Slopes 2-8%	0.50 0.50 0.17
392: Pleito-----	85	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes 2-8% Permeability .6-2"/hr (some seepage)	0.83 0.50
393: Pleito-----	85	Limitations Slopes >15% Seepage in bottom layer Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
394: Pleito-----	45	Limitations Slopes >15% Seepage in bottom layer Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Xeric Torriorthents, very gravelly	40	Limitations Depth to bedrock <40" Slopes >15% Seepage in bottom layer	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
395: Pleito-----	50	Limitations Slopes >15% Seepage in bottom layer Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Emidio-----	20	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Loslobos-----	15	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
396: Pleito-----	60	Limitations Slopes >15% Seepage in bottom layer Permeability .6-2"/hr (slow perc)	 1.00 1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	 1.00 0.50
Loslobos-----	25	Limitations Slopes >15% Seepage in bottom layer	 1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	 1.00 1.00
398: Calcic Haploxerepts-----	30	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	 1.00 1.00	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	 1.00 0.50
Calcic Pachic Argixerolls, fine----	25	Limitations Permeability <.6"/hr in 24-60" (slow perc) Slopes >15%	 1.00 1.00	Limitations Slopes >8%	 1.00
Xerorthents, shallow-----	20	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	 1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	 1.00 1.00 0.50
400: Loslobos-----	35	Limitations Slopes >15% Seepage in bottom layer	 1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	 1.00 1.00
Xeric Torriorthents, very gravelly	25	Limitations Depth to bedrock <40" Slopes >15% Seepage in bottom layer	 1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability >2"/hr (seepage)	 1.00 1.00 1.00
Badlands-----	20	Not rated		Not rated	
401: Loslobos-----	85	Limitations Slopes >15% Seepage in bottom layer	 1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	 1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
402: Loslobos-----	40	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
Walong-----	30	Limitations Depth to bedrock <40" Fragments (>3") >50% Slopes >15%	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Fragments (>3") > 35%	1.00 1.00 1.00
403: Loslobos-----	45	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
Calleguas-----	35	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
404: Loslobos, moist-----	85	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
430: Littlesignal-----	45	Limitations Slopes >15% Depth to bedrock 40-72" Permeability .6-2"/hr (slow perc)	1.00 0.63 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage) Bedrock (soft) at 40- 60"	1.00 0.50 0.18
Cochora-----	40	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
431: Littlesignal-----	50	Limitations Slopes >15% Depth to bedrock 40-72" Permeability .6-2"/hr (slow perc)	1.00 0.63 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage) Bedrock (soft) at 40- 60"	1.00 0.50 0.18

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
431: Cochora-----	35	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
432: Littlesignal-----	45	Limitations Slopes >15% Depth to bedrock 40-72" Permeability .6-2"/hr (slow perc)	1.00 0.69 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage) Bedrock (soft) at 40- 60"	1.00 0.50 0.26
Badlands-----	25	Not rated		Not rated	
Cochora-----	20	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
440: Elkhills-----	50	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
Pyxo-----	35	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
441: Sodic Haplocambids, thick-----	60	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
442: Elkhills-----	80	Limitations Seepage in bottom layer Slopes 8-15%	1.00 0.16	Limitations Permeability >2"/hr (seepage) Slopes >8%	1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
443: Elkhills-----	40	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
Badlands-----	40	Not rated		Not rated	
444: Elkhills-----	90	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
445: Sodic Haplocambids, thick-----	45	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
Elkhills-----	40	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
451: Beam-----	35	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
Panoza-----	30	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Hillbrick-----	15	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
460: Geghus-----	50	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
460: Tecuya-----	30	Limitations Slopes 8-15% Permeability .6-2"/hr (slow perc) Fragments (>3") 25 to 50%	 0.63 0.50 0.14	Limitations Slopes >8% Permeability .6-2"/hr (some seepage) Fragments (>3") 20-35%	 1.00 0.50 0.07
461: Geghus-----	50	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	 1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	 1.00 0.50
Tecuya-----	35	Limitations Slopes >15% Permeability .6-2"/hr (slow perc) Fragments (>3") 25 to 50%	 1.00 0.50 0.14	Limitations Slopes >8% Permeability .6-2"/hr (some seepage) Fragments (>3") 20-35%	 1.00 0.50 0.07
462: Geghus-----	55	Limitations Slopes >15% Depth to bedrock 40-72" Permeability .6-2"/hr (slow perc)	 1.00 0.99 0.50	Limitations Slopes >8% Bedrock (hard) at 40-60" Permeability .6-2"/hr (some seepage)	 1.00 0.96 0.50
Xeric Torriorthents, very gravelly	30	Limitations Depth to bedrock <40" Slopes >15% Seepage in bottom layer	 1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability >2"/hr (seepage)	 1.00 1.00 1.00
470: Pyxo-----	55	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	 1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	 1.00 1.00 0.50
Cochora-----	30	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	 1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	 1.00 1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
471: Pyxo-----	40	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Cochora-----	25	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
Badlands-----	15	Not rated		Not rated	
472: Pyxo-----	30	Limitations Depth to bedrock <40" Permeability .6-2"/hr (slow perc) Slopes 8-15%	1.00 0.50 0.16	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Kimberlina-----	30	Limitations Seepage in bottom layer Slopes 8-15%	1.00 0.16	Limitations Permeability >2"/hr (seepage) Slopes >8%	1.00 1.00
Cochora-----	25	Limitations Depth to bedrock <40" Restricted permeability due to bedrock or hardpan Seepage in bottom layer	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Permeability >2"/hr (seepage) Slopes >8%	1.00 1.00 1.00
480: Pyxo, dry-----	45	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Elkhills-----	35	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
490: Padres-----	65	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Permeability >2"/hr (seepage) Slopes 2-8%	1.00 0.67
500: Bitcreek-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc)	1.00	Limitations Permeability .6-2"/hr (some seepage) Slopes 2-8%	0.50 0.17
510: Beam-----	35	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
Panoza-----	30	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Hillbrick-----	15	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
511: Beam-----	35	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
Panoza-----	30	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
511: Hillbrick-----	15	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
515: Zonap-----	50	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Badlands-----	20	Not rated		Not rated	
Beam-----	15	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
516: Zonap-----	45	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Beam-----	40	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
530: Tehachapi-----	80	Limitations Permeability .6-2"/hr (slow perc)	0.50	Limitations Permeability .6-2"/hr (some seepage) Slopes 2-8%	0.50 0.33
531: Tehachapi-----	85	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
540: Xeric Torriorthents-----	50	Limitations Slopes >15% Seepage in bottom layer Depth to bedrock 40-72"	1.00 1.00 0.98	Limitations Slopes >8% Permeability >2"/hr (seepage) Bedrock (hard) at 40-60"	1.00 1.00 0.93
Badlands-----	25	Not rated		Not rated	
550: Elkhills-----	45	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
Welport-----	45	Limitations Depth to pan < 40" Seepage in bottom layer Slopes 8-15%	1.00 1.00 0.63	Limitations Depth to pan < 40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
560: Laval-----	44	Limitations Flooding Permeability >6"/hr in 24-60" (seepage and poor filter) Seepage in bottom layer	1.00 1.00 1.00	Limitations Flooding >= occasional Permeability >2"/hr (seepage) Slopes 2-8%	1.00 1.00 0.17
Pleitito-----	44	Limitations Flooding Seepage in bottom layer	1.00 1.00	Limitations Flooding >= occasional Permeability >2"/hr (seepage) Slopes 2-8%	1.00 1.00 0.17
561: Laval-----	45	Limitations Flooding Permeability >6"/hr in 24-60" (seepage and poor filter) Seepage in bottom layer	1.00 1.00 1.00	Limitations Flooding >= occasional Permeability >2"/hr (seepage) Slopes 2-8%	1.00 1.00 0.50
Pleitito-----	45	Limitations Flooding Seepage in bottom layer Slopes 8-15%	1.00 1.00 0.16	Limitations Flooding >= occasional Permeability >2"/hr (seepage) Slopes >8%	1.00 1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
570: Hillbrick-----	65	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
571: Hillbrick-----	65	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
580: Reward-----	45	Limitations Permeability <.6"/hr in 24-60" (slow perc) Slopes >15% Depth to bedrock 40-72"	1.00 1.00 0.27	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Hillbrick-----	45	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
581: Reward-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Slopes >15% Depth to bedrock 40-72"	1.00 1.00 0.27	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
583: Bellyspring-----	35	Limitations Depth to bedrock <40" Seepage in bottom layer Slopes 8-15%	1.00 1.00 0.63	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
583: Panoza-----	25	Limitations Depth to bedrock <40" Slopes 8-15% Permeability .6-2"/hr (slow perc)	1.00 0.63 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
584: Bellyspring-----	35	Limitations Slopes >15% Depth to bedrock <40" Seepage in bottom layer	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
Panoza-----	30	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
585: Bellyspring-----	35	Limitations Slopes >15% Depth to bedrock <40" Seepage in bottom layer	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
Panoza-----	30	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
586: Panoza-----	40	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Beam-----	30	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
587: Panoza-----	40	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Beam-----	30	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
588: Panoza-----	40	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Beam-----	30	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
590: Gorman-----	35	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Typic Xerorthents, mesic-----	30	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Xerorthents, shallow-----	20	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
591: Geghus-----	40	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Selby-----	40	Limitations Slopes >15% Depth to bedrock <40" Seepage in bottom layer	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
600: Positas-----	45	Limitations Permeability <.6"/hr in 24-60" (slow perc) Seepage in bottom layer	1.00 1.00	Limitations Permeability >2"/hr (seepage) Slopes 2-8%	1.00 0.67
Bitcreek-----	35	Limitations Permeability <.6"/hr in 24-60" (slow perc)	1.00	Limitations Slopes 2-8% Permeability .6-2"/hr (some seepage)	0.67 0.50
610: Balcom-----	55	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Rock outcrop-----	20	Not rated		Not rated	
620: Typic Xerorthents, mesic-----	40	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Haploxerepts-----	40	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
620: Xerorthents, sandy-----	18	Limitations Slopes >15% Seepage in bottom layer Permeability >6"/hr in 24-60" (seepage and poor filter)	1.00 1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage) Bedrock (soft) at 40- 60"	1.00 1.00 0.99
640: Bitcreek-----	40	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Dibble-----	30	Limitations Permeability <.6"/hr in 24-60" (slow perc) Slopes >15% Depth to bedrock <40"	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
Eaglerest-----	15	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
650: Lithic Argixerolls-----	50	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Fragments (>3") 20-35%	1.00 1.00 0.17
Lithic Xerorthents, mesic-----	25	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Fragments (>3") 20-35%	1.00 1.00 0.75
Rock outcrop-----	15	Not rated		Not rated	
660: Elkhills-----	70	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
660: Legray-----	20	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
661: Elkhills-----	40	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
Legray-----	40	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
670: Harrisranch-----	60	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Rock outcrop-----	20	Not rated		Not rated	
680: Milham-----	90	Limitations Seepage in bottom layer Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Permeability >2"/hr (seepage) Slopes 2-8%	1.00 0.17
690: Dibble-----	45	Limitations Permeability <.6"/hr in 24-60" (slow perc) Slopes >15% Depth to bedrock <40"	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
Geghus-----	40	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
700: Xerolls, loamy-skeletal-----	55	Limitations Slopes >15% Permeability .6-2"/hr (slow perc) Fragments (>3") 25 to 50%	1.00 0.50 0.29	Limitations Slopes >8% Permeability .6-2"/hr (some seepage) Fragments (>3") 20-35%	1.00 0.50 0.13

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
700: Los Gatos-----	30	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc) Depth to bedrock <40"	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
720: Friant-----	50	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8%	1.00 1.00
Geghus-----	20	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Lithic Xerorthents, thermic-----	20	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8%	1.00 1.00
724: Elkhills-----	90	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
725: Sodic Haplocambids, thick-----	85	Limitations Permeability <.6"/hr in 24-60" (slow perc) Slopes 8-15%	1.00 0.63	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
726: Sodic Haplocambids, thick-----	90	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
727: Sodic Haplocambids, thick-----	90	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
728: Torriorthents, very thin-----	85	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc) Depth to bedrock <40"	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
729: Sodic Haplocambids, thick-----	40	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
Torriorthents, thin-----	30	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Torriorthents, very thin, eroded--	15	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc) Depth to bedrock <40"	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
730: Haplocambids, thick-----	50	Limitations Slopes 8-15% Permeability .6-2"/hr (slow perc)	0.63 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Elkhills-----	30	Limitations Seepage in bottom layer Slopes 8-15%	1.00 0.63	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
731: Haplocambids, thick-----	45	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
731: Elkhills-----	40	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
732: Elkhills-----	50	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
Haplocambids, thick-----	40	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
733: Sodic Haplocambids, thick-----	50	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
Torriorthents, thin-----	35	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
734: Sodic Haplocambids, thick-----	40	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
Torriorthents, very thin, eroded--	25	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc) Depth to bedrock <40"	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
Elkhills-----	24	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
735: Sodic Haplocambids, thick-----	40	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
735: Elkhills-----	25	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00
Torriorthents, thin-----	20	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
750: Ballinger-----	85	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
760: Ballinger-----	85	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
780: Stutzville-----	85	Limitations Flooding Permeability <.6"/hr in 24-60" (slow perc) Seepage in bottom layer	1.00 1.00 1.00	Limitations Flooding >= occasional	1.00
850: Xerofluvents-----	85	Limitations Flooding Seepage in bottom layer	1.00 1.00	Limitations Flooding >= occasional Permeability >2"/hr (seepage)	1.00 1.00
860: Hawk-----	90	Limitations Seepage in bottom layer Slopes 8-15% Rare flooding	1.00 0.63 0.40	Limitations Slopes >8% Permeability >2"/hr (seepage) Rare flooding	1.00 1.00 0.50
870: Frazier-----	80	Limitations Slopes >15% Depth to bedrock <40" Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
880: Chuchupate-----	90	Limitations Slopes >15% Depth to bedrock <40" Seepage in bottom layer	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
890: Gorman-----	90	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
919: Zonap-----	40	Limitations Slopes >15% Depth to bedrock <40" Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Harrisranch-----	30	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Beam-----	15	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability >2"/hr (seepage)	1.00 1.00 1.00
930: Bitcreek-----	40	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Shimmon-----	25	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
Balhud-----	15	Limitations Depth to bedrock <40" Restricted permeability due to bedrock or hardpan Slopes >15%	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Bedrock (soft) at <40" Slopes >8%	1.00 1.00 1.00

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
932: Bitcreek-----	40	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Shimmon-----	25	Limitations Slopes >15% Depth to bedrock <40" Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
Balhud-----	20	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Bedrock (soft) at <40" Slopes >8%	1.00 1.00 1.00
940: Bitcreek-----	90	Limitations Permeability <.6"/hr in 24-60" (slow perc)	1.00	Limitations Slopes 2-8% Permeability .6-2"/hr (some seepage)	0.50 0.50
950: Pleito-----	40	Limitations Slopes >15% Seepage in bottom layer Permeability .6-2"/hr (slow perc)	1.00 1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Ballinger-----	25	Limitations Permeability <.6"/hr in 24-60" (slow perc) Slopes >15% Depth to bedrock <40"	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
Balhud-----	20	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Bedrock (soft) at <40" Slopes >8%	1.00 1.00 1.00
951: Bitcreek-----	40	Limitations Permeability <.6"/hr in 24-60" (slow perc) Slopes >15%	1.00 1.00	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50

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Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
951: Balhud-----	30	Limitations Depth to bedrock <40" Restricted permeability due to bedrock or hardpan Slopes >15%	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Bedrock (soft) at <40" Slopes >8%	1.00 1.00 1.00
Ballinger-----	15	Limitations Permeability <.6"/hr in 24-60" (slow perc) Depth to bedrock <40" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
954: Typic Haploxerafls, fine-----	50	Limitations Permeability <.6"/hr in 24-60" (slow perc) Depth to bedrock <40" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8%	1.00 1.00
Haploxerolls, coarse-loamy-----	30	Limitations Slopes >15% Depth to bedrock <40" Fragments (>3") >50%	1.00 1.00 1.00	Limitations Bedrock (hard) at <40" Slopes >8% Fragments (>3") > 35%	1.00 1.00 1.00
955: Calcic Haploxerepts-----	30	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
Xerorthents, shallow-----	25	Limitations Depth to bedrock <40" Slopes >15% Restricted permeability due to bedrock or hardpan	1.00 1.00 1.00	Limitations Bedrock (soft) at <40" Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Badlands-----	20	Not rated		Not rated	
970: Harrisranch-----	50	Limitations Slopes >15% Permeability .6-2"/hr (slow perc)	1.00 0.50	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Limitations	Value	Limitations	Value
970: Bitcreek-----	35	Limitations Slopes >15% Permeability <.6"/hr in 24-60" (slow perc)	1.00 1.00	Limitations Slopes >8% Permeability .6-2"/hr (some seepage)	1.00 0.50
980: Area not surveyed, access denied--	100	Not rated		Not rated	
W: Water-----	100	Not rated		Not rated	

The interpretation for septic tanks adsorption fields evaluates the following soil properties and characteristics: flooding; ponding; wetness; slope; subsidence of organic soils; depth to hard or soft bedrock; depth to a cemented pan; permeability that is too rapid, allowing seepage; and permeability that is too slow or an impermeable layer at a shallow depth.

The interpretation for sewage lagoons evaluates the following soil properties and characteristics: flooding, ponding, wetness, slope, organic Unified classes for low strength (PT, OL, or OH), depth to hard or soft bedrock, depth to a cemented pan, rock fragments greater than 3 inches in size, and permeability that is too fast, allowing seepage.

Table 13b.--Sanitary Facilities (Part 2)

[The information in this table is based on interpretations developed by the Pacific Southwest MLRA Office. The information indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The rating is based on the limitation with the highest value. Only the three highest value limitations are listed. There may be more limitations. Fine-earth fractions and coarse fragments are reported on the basis of weight. An explanation of the rating criteria and of the abbreviations used in describing the limitations is given at the end of the table]

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
101: Bakersfield, drained-----	80	Limitations Seepage in bottom layer Flooding = rare	1.00 0.50	Limitations Seepage at 20-40" Rare flooding	1.00 0.40	No Limitations	
102: Bakersfield, partially drained-----	85	Limitations Saturation at <6' SAR >13 and not aridic climate Seepage in bottom layer	1.00 1.00 1.00	Limitations Seepage at 20-40" Rare flooding	1.00 0.40	Limitations SAR >13 and not aridic climate	1.00
110: Buttonwillow, partially drained-----	75	Limitations Saturation at <6' Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	No Limitations	
120: Granoso-----	85	Limitations Sandy textures (COS, S, FS, LCOS, or VFS) Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Texture is S, FS, COS, SG Permeability >2.0 in/hr	1.00 1.00
121: Granoso-----	85	Limitations Sandy textures (COS, S, FS, LCOS, or VFS) Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Texture is S, FS, COS, SG Permeability >2.0 in/hr	1.00 1.00
122: Granoso, loamy substratum-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr	0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
123: Granoso-----	85	Limitations Sandy textures (COS, S, FS, LCOS, or VFS) Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Texture is S, FS, COS, SG Permeability >2.0 in/hr	1.00 1.00
124: Granoso-----	90	Limitations Sandy textures (COS, S, FS, LCOS, or VFS) Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Texture is S, FS, COS, SG Permeability >2.0 in/hr Fragments (<75mm) 25-50%	1.00 1.00 0.03
130: Cerini-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	No Limitations	
131: Calflax-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	No Limitations	
132: Cerini-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	No Limitations	
133: Calflax-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	No Limitations	
134: Cerini-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	No Limitations	
140: Copus silty clay, partially drained-----	85	Limitations Saturation at <6' Clay or silty clay Flooding = rare	1.00 1.00 0.50	Limitations Rare flooding	0.40	Limitations Silty clay or clay 10-60" Packing (OL, OH, CH or MH) Clay or silty clay	1.00 1.00 1.00
141: Copus clay, partially drained-----	95	Limitations Saturation at <6' Clay or silty clay Flooding = rare	1.00 1.00 0.50	Limitations Rare flooding	0.40	Limitations Silty clay or clay 10-60" Packing (OL, OH, CH or MH) Clay or silty clay	1.00 1.00 1.00

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
150: Excelsior-----	85	Limitations Flooding = rare Sandy textures (COSL, LS, LFS, or LVFS)	0.50 0.50	Limitations Rare flooding	0.40	Limitations Texture is LCOS, LS, LFS, VFS	0.50
151: Excelsior, saline-sodic-	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	No Limitations	
152: Excelsior-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	No Limitations	
153: Tupman-----	80	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr Fragments (<75mm) 25-50%	1.00 0.17
154: Tupman-----	70	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr Fragments (<75mm) 25-50%	1.00 0.17
Urban land-----	20	Not rated		Not rated		Not rated	
160: Fages-----	80	Limitations Saturation at <6' EC >16 dS/m Flooding = rare	1.00 1.00 0.50	Limitations Rare flooding	0.40	Limitations Packing (OL, OH, CH or MH)	1.00
179: Padres-----	70	Limitations Seepage in bottom layer	1.00	Limitations Seepage at 20-40"	1.00	Limitations Permeability >2.0 in/hr Fragments (<75mm) 25-50%	0.50 0.02
180: Garces-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	No Limitations	
190: Guijarral-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Fragments (<75mm) 25-50%	0.07

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
191: Guijarral-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Fragments (<75mm) 25-50%	0.07
192: Guijarral-----	45	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Fragments (<75mm) 25-50%	0.07
Klipstein-----	45	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Fragments (<75mm) >50% Permeability >2.0 in/hr	1.00 0.50
193: Guijarral-----	85	No limitations		No limitations		Limitations Fragments (<75mm) 25-50%	0.63
195: Guijarral, extremely gravelly substratum----	60	No limitations		No limitations		Limitations Fragments (<75mm) 25-50%	0.72
Guijarral-----	30	No limitations		No limitations		Limitations Permeability >2.0 in/hr Fragments (<75mm) 25-50%	0.50 0.08
197: Klipstein-----	60	Limitations Flooding = rare Slopes 8-15%	0.50 0.16	Limitations Rare flooding Slopes 8-15%	0.40 0.16	Limitations Fragments (<75mm) >50% Permeability >2.0 in/hr Slopes 8-15%	1.00 0.50 0.16
Guijarral-----	25	Limitations Flooding = rare Slopes 8-15%	0.50 0.16	Limitations Rare flooding Slopes 8-15%	0.40 0.16	Limitations Fragments (<75mm) 25-50% Slopes 8-15%	0.63 0.16
200: Hesperia-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr	0.50
201: Hesperia-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr	0.50
210: Kimberlina-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr	0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
211: Kimberlina-----	80	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr	0.50
212: Kimberlina, saline-sodic	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	No Limitations	
214: Kimberlina-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr Fragments (<75mm) 25-50%	0.50 0.08
215: Kimberlina-----	85	No limitations		No limitations		Limitations Permeability >2.0 in/hr Fragments (<75mm) 25-50%	0.50 0.18
216: Kimberlina, occasionally flooded-----	50	Limitations Flooding >= occasional	1.00	Limitations Occasional flooding	0.60	Limitations Permeability >2.0 in/hr	0.50
Granoso, occasionally flooded-----	35	Limitations Flooding >= occasional Sandy textures (COS, S, FS, LCOS, or VFS)	1.00 1.00	Limitations Occasional flooding	0.60	Limitations Texture is S, FS, COS, SG Permeability >2.0 in/hr	1.00 1.00
217: Kimberlina-----	50	No limitations		Limitations Very rare flooding	0.20	Limitations Permeability >2.0 in/hr	0.50
Urban land-----	35	Not rated		Not rated		Not rated	
219: Xerorthents-----	50	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40" Seepage at 20-40"	1.00 1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Fragments (<75mm) 25-50%	1.00 1.00 0.98
Badlands-----	35	Not rated		Not rated		Not rated	
220: Lokern, drained-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Packing (OL, OH, CH or MH)	1.00

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
221: Lokern, partially drained-----	85	Limitations Saturation at <6' Flooding = rare	1.00 0.50	Limitations Saturation at <5' Rare flooding	1.00 0.40	Limitations Packing (OL, OH, CH or MH)	1.00
230: Milagro-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr	0.50
231: Milagro-----	85	Limitations Flooding = rare Sandy textures (COSL, LS, LFS, or LVFS)	0.50 0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr Texture is LCOS, LS, LFS, VFS	0.50 0.50
240: Millox, partially drained-----	85	Limitations Saturation at <6' Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Packing (OL, OH, CH or MH)	1.00
241: Millox, partially drained, nonsaline-----	85	Limitations Saturation at <6' Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Packing (OL, OH, CH or MH)	1.00
242: Millox, partially drained-----	55	Limitations Saturation at <6' Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Packing (OL, OH, CH or MH)	1.00
Tennco-----	35	Limitations EC >16 dS/m Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	No Limitations	
243: Millox, partially drained-----	50	Limitations Saturation at <6' Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Packing (OL, OH, CH or MH)	1.00

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
243: Zalvidea, partially drained-----	35	Limitations Saturation at <6' Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	No Limitations	
246: Whitewolf-----	85	Limitations Flooding = rare Sandy textures (COSL, LS, LFS, or LVFS)	0.50 0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr Texture is LCOS, LS, LFS, VFS	1.00 0.50
250: Oldriver-----	85	Limitations Flooding = rare	0.50	Limitations Seepage at 20-40" Rare flooding	1.00 0.40	Limitations Packing (OL, OH, CH or MH)	1.00
251: Oldriver, partially drained, sodic-----	85	Limitations Clay or silty clay SAR >13 and not aridic climate Flooding = rare	1.00 1.00 0.50	Limitations Seepage at 20-40" Rare flooding	1.00 0.40	Limitations Silty clay or clay 10-60" Packing (OL, OH, CH or MH) Clay or silty clay	1.00 1.00 1.00
260: Panoche-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	No Limitations	
270: Pits-----	50	Not rated		Not rated		Not rated	
Dumps-----	50	Not rated		Not rated		Not rated	
280: Premier-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr	0.50
281: Premier-----	85	No limitations		Limitations Very rare flooding	0.20	Limitations Permeability >2.0 in/hr	0.50
290: Riverwash-----	85	Not rated		Not rated		Not rated	

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
300: Tennco-----	85	Limitations EC >16 dS/m Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	No Limitations	
310: Vineland, drained-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr	1.00
312: Vineland, drained-----	50	Limitations Sandy textures (COS, S, FS, LCOS, or VFS) Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Texture is S, FS, COS, SG Permeability >2.0 in/hr	1.00 1.00
Bakersfield, drained-----	40	Limitations Seepage in bottom layer Flooding = rare	1.00 0.50	Limitations Seepage at 20-40" Rare flooding	1.00 0.40	No Limitations	
320: Wasco-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr	0.50
330: Cuyama-----	85	Limitations Flooding = rare Fragments (3-10") 15-35%	0.50 0.02	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr Fragments (>3") 25-50%	1.00 0.03
331: Cuyama-----	85	Limitations Slopes 8-15% Fragments (3-10") 15-35%	0.16 0.02	Limitations Slopes 8-15%	0.16	Limitations Permeability >2.0 in/hr Slopes 8-15% Fragments (>3") 25-50%	1.00 0.16 0.03
332: Cuyama-----	85	Limitations Slopes >15% Fragments (3-10") 15-35%	1.00 0.02	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr Fragments (>3") 25-50%	1.00 1.00 0.03
340: Weedpatch-----	85	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	No Limitations	

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
350: Posochanet, saline-sodic	85	Limitations EC >16 dS/m Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Packing (OL, OH, CH or MH)	1.00
351: Posochanet, saline-sodic	75	Limitations EC >16 dS/m Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Packing (OL, OH, CH or MH)	1.00
352: Posochanet-----	70	Limitations EC >16 dS/m Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Packing (OL, OH, CH or MH)	1.00
Posochanet, partially reclaimed-----	20	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Packing (OL, OH, CH or MH)	1.00
360: Wheelridge-----	85	Limitations Sandy textures (COS, S, FS, LCOS, or VFS) Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Texture is S, FS, COS, SG Permeability >2.0 in/hr Fragments (<75mm) 25-50%	1.00 1.00 0.84
370: Whitewolf-----	85	Limitations Flooding = rare Sandy textures (COSL, LS, LFS, or LVFS)	0.50 0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr Texture is LCOS, LS, LFS, VFS	1.00 0.50
371: Whitewolf-----	85	Limitations Flooding = rare Sandy textures (COSL, LS, LFS, or LVFS)	0.50 0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr Texture is LCOS, LS, LFS, VFS	1.00 0.50
380: Zalvidea, partially drained-----	85	Limitations Saturation at <6' Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	No Limitations	

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
381: Zalvidea, partially drained-----	85	Limitations Saturation at <6' Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	No Limitations	
389: Xerofluvents-----	30	Limitations Flooding >= occasional Sandy textures (COS, S, FS, LCOS, or VFS) Seepage in bottom layer	1.00 1.00 1.00	Limitations Seepage at 20-40" Occasional flooding	1.00 0.60	Limitations Fragments (<75mm) >50% Texture is S, FS, COS, SG Permeability >2.0 in/hr	1.00 1.00 1.00
Haploxerepts-----	30	Limitations Flooding = rare	0.50	Limitations Rare flooding	0.40	Limitations Fragments (<75mm) 25-50%	0.19
Riverwash-----	15	Not rated		Not rated		Not rated	
390: Pleito-----	85	Limitations Seepage in bottom layer Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr	0.50
391: Pleito-----	80	Limitations Seepage in bottom layer Flooding = rare	1.00 0.50	Limitations Rare flooding	0.40	Limitations Permeability >2.0 in/hr	0.50
392: Pleito-----	85	Limitations Seepage in bottom layer	1.00	No limitations		Limitations Permeability >2.0 in/hr	0.50
393: Pleito-----	85	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
394: Pleito-----	45	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
Xeric Torriorthents, very gravelly-----	40	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
395:							
Pleito-----	50	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
Emidio-----	20	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00
Loslobos-----	15	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >15% Seepage at 20-40"	1.00 1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
396:							
Pleito-----	60	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
Loslobos-----	25	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >15% Seepage at 20-40"	1.00 1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
398:							
Calcic Haploxerepts-----	30	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00
Calcic Pachic Argixerolls, fine-----	25	Limitations Slopes >15% Clay loam, silty clay, silty clay loam	1.00 0.50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Silt or clay textures from 10-60" Clay loam, silty clay, silty clay loam	1.00 0.50 0.50
Xerorthents, shallow----	20	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15%	1.00 1.00
400:							
Loslobos-----	35	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >15% Seepage at 20-40"	1.00 1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
400: Xeric Torriorthents, very gravelly-----	25	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
Badlands-----	20	Not rated		Not rated		Not rated	
401: Loslobos-----	85	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >15% Seepage at 20-40"	1.00 1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
402: Loslobos-----	40	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >15% Seepage at 20-40"	1.00 1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
Walong-----	30	Limitations Lithic or paralithic bedrock at <72" Slopes >15%	1.00 1.00	Limitations Bedrock at <40" Slopes >15%	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Fragments (>3") >50%	1.00 1.00 1.00
403: Loslobos-----	45	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >15% Seepage at 20-40"	1.00 1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
Calleguas-----	35	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Clay loam, silty clay, silty clay loam	1.00 1.00 0.50	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Silt or clay textures from 10-60"	1.00 1.00 0.50
404: Loslobos, moist-----	85	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >15% Seepage at 20-40"	1.00 1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
430: Littlesignal-----	45	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock 40-60"	1.00 0.18

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
430: Cochora-----	40	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
431: Littlesignal-----	50	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock 40-60"	1.00 0.18
Cochora-----	35	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
432: Littlesignal-----	45	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock 40-60"	1.00 0.26
Badlands-----	25	Not rated		Not rated		Not rated	
Cochora-----	20	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
440: Elkhills-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
Pyxo-----	35	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
441: Sodic Haplocambids, thick-----	60	Not rated		Limitations Slopes >15% Seepage at 20-40"	1.00 1.00	Not rated	

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
442: Elkhills-----	80	Limitations Slopes 8-15%	0.16	Limitations Slopes 8-15%	0.16	Limitations Permeability >2.0 in/hr Slopes 8-15%	0.50 0.16
443: Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
Badlands-----	40	Not rated		Not rated		Not rated	
444: Elkhills-----	90	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
445: Sodic Haplocambids, thick-----	45	Not rated		Limitations Slopes >15% Seepage at 20-40"	1.00 1.00	Not rated	
Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
451: Beam-----	35	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
Panoza-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
Hillbrick-----	15	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
460: Geghus-----	50	Limitations Slopes >15% Clay loam, silty clay, silty clay loam	1.00 0.50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Silt or clay textures from 10-60" Clay loam, silty clay, silty clay loam	1.00 0.50 0.50
Tecuya-----	30	Limitations Fragments (3-10") > 35% Slopes 8-15%	1.00 0.63	Limitations Slopes 8-15%	0.63	Limitations Fragments (>3") >50% Slopes 8-15%	1.00 0.63
461: Geghus-----	50	Limitations Slopes >15% Clay loam, silty clay, silty clay loam	1.00 0.50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Silt or clay textures from 10-60" Clay loam, silty clay, silty clay loam	1.00 0.50 0.50
Tecuya-----	35	Limitations Slopes >15% Fragments (3-10") > 35%	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Fragments (>3") >50%	1.00 1.00
462: Geghus-----	55	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Clay loam, silty clay, silty clay loam	1.00 1.00 0.50	Limitations Slopes >15% Bedrock depth from 40-60"	1.00 0.96	Limitations Slopes >15% Depth to bedrock 40-60" Silt or clay textures from 10-60"	1.00 0.96 0.50
Xeric Torriorthents, very gravelly-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Fragments (3-10") 15-35%	1.00 1.00 0.01	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
470: Pyxo-----	55	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00

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Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
470: Cochora-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
471: Pyxo-----	40	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
Cochora-----	25	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
Badlands-----	15	Not rated		Not rated		Not rated	
472: Pyxo-----	30	Limitations Lithic or paralithic bedrock at <72" Slopes 8-15%	1.00 0.16	Limitations Slopes 8-15%	0.16	Limitations Depth to bedrock <40" Slopes 8-15%	1.00 0.16
Kimberlina-----	30	Limitations Slopes 8-15%	0.16	Limitations Slopes 8-15%	0.16	Limitations Permeability >2.0 in/hr Slopes 8-15%	0.50 0.16
Cochora-----	25	Limitations Lithic or paralithic bedrock at <72" Slopes 8-15%	1.00 0.16	Limitations Slopes 8-15%	0.16	Limitations Depth to bedrock <40" Permeability >2.0 in/hr Slopes 8-15%	1.00 0.50 0.16
480: Pyxo, dry-----	45	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
Elkhills-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
490: Padres-----	65	Limitations Seepage in bottom layer	1.00	Limitations Seepage at 20-40"	1.00	Limitations Permeability >2.0 in/hr Fragments (<75mm) 25-50%	0.50 0.02
500: Bitcreek-----	85	Limitations Clay or silty clay	1.00	No limitations		Limitations Silty clay or clay 10-60" Packing (OL, OH, CH or MH) Clay or silty clay	1.00 1.00 1.00
510: Beam-----	35	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
Panoza-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
Hillbrick-----	15	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
511: Beam-----	35	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
Panoza-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Not rated	
Hillbrick-----	15	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
515: Zonap-----	50	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
Badlands-----	20	Not rated		Not rated		Not rated	
Beam-----	15	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
516: Zonap-----	45	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
Beam-----	40	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
530: Tehachapi-----	80	No limitations		No limitations		Limitations Fragments (>3") 25-50%	0.20
531: Tehachapi-----	85	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Fragments (>3") 25-50%	1.00 0.20
540: Xeric Torriorthents-----	50	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Fragments (<75mm) >50% Slopes >15% Depth to bedrock 40-60"	1.00 1.00 0.94
Badlands-----	25	Not rated		Not rated		Not rated	
550: Elkhills-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
550: Welport-----	45	Limitations Slopes 8-15% Depth to thin cemented pan	0.63 0.50	Limitations Slopes 8-15%	0.63	Limitations Depth to pan < 40" Slopes 8-15% Permeability >2.0 in/hr	1.00 0.63 0.50
560: Laval-----	44	Limitations Flooding >= occasional Sandy textures (COSL, LS, LFS, or LVFS)	1.00 0.50	Limitations Frequent flooding	0.80	Limitations Fragments (<75mm) >50% Permeability >2.0 in/hr Texture is LCOS, LS, LFS, VFS	1.00 1.00 0.50
Pleitito-----	44	Limitations Flooding >= occasional Seepage in bottom layer	1.00 1.00	Limitations Seepage at 20-40" Frequent flooding	1.00 0.80	Limitations Permeability >2.0 in/hr	0.50
561: Laval-----	45	Limitations Flooding >= occasional Sandy textures (COSL, LS, LFS, or LVFS)	1.00 0.50	Limitations Frequent flooding	0.80	Limitations Fragments (<75mm) >50% Permeability >2.0 in/hr Texture is LCOS, LS, LFS, VFS	1.00 1.00 0.50
Pleitito-----	45	Limitations Flooding >= occasional Seepage in bottom layer Slopes 8-15%	1.00 1.00 0.16	Limitations Seepage at 20-40" Frequent flooding Slopes 8-15%	1.00 0.80 0.16	Limitations Permeability >2.0 in/hr Slopes 8-15%	0.50 0.16
570: Hillbrick-----	65	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
571: Hillbrick-----	65	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
580: Reward-----	45	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Fragments (<75mm) 25-50%	1.00 0.39
Hillbrick-----	45	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15%	1.00 1.00
581: Reward-----	85	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Fragments (<75mm) 25-50%	1.00 0.39
583: Bellyspring-----	35	Limitations Lithic or paralithic bedrock at <72" Seepage in bottom layer Slopes 8-15%	1.00 1.00 1.00 0.63	Limitations Bedrock at <40" Seepage at 20-40" Slopes 8-15%	1.00 1.00 0.63	Limitations Depth to bedrock <40" Slopes 8-15% Permeability >2.0 in/hr	1.00 0.63 0.50
Panoza-----	25	Limitations Lithic or paralithic bedrock at <72" Slopes 8-15%	1.00 1.00 0.63	Limitations Bedrock at <40" Slopes 8-15%	1.00 0.63	Limitations Depth to bedrock <40" Slopes 8-15%	1.00 0.63
584: Bellyspring-----	35	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40" Seepage at 20-40"	1.00 1.00 1.00	Limitations Slopes >15% Depth to bedrock <40" Permeability >2.0 in/hr	1.00 1.00 0.50
Panoza-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
585: Bellyspring-----	35	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40" Seepage at 20-40"	1.00 1.00 1.00	Limitations Slopes >15% Depth to bedrock <40" Permeability >2.0 in/hr	1.00 1.00 0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
585: Panoza-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
586: Panoza-----	40	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
Beam-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
587: Panoza-----	40	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
Beam-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
588: Panoza-----	40	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
Beam-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
590: Gorman-----	35	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00
Typic Xerorthents, mesic	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40" Fragments (<75mm) 25-50%	1.00 1.00 0.59

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Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
590: Xerorthents, shallow----	20	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15%	1.00 1.00
591: Geghus-----	40	Limitations Slopes >15% Clay loam, silty clay, silty clay loam	1.00 0.50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Silt or clay textures from 10-60" Clay loam, silty clay, silty clay loam	1.00 0.50 0.50
Selby-----	40	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Fragments (3-10") > 35%	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40" Seepage at 20-40"	1.00 1.00 1.00	Limitations Slopes >15% Depth to bedrock <40" Fragments (>3") 25-50%	1.00 1.00 0.69
600: Positas-----	45	Limitations Clay or silty clay Seepage in bottom layer	1.00 1.00	No limitations		Limitations Silty clay or clay 10-60" Packing (OL, OH, CH or MH) Clay or silty clay	1.00 1.00 1.00
Bitcreek-----	35	Limitations Clay or silty clay	1.00	No limitations		Limitations Silty clay or clay 10-60" Packing (OL, OH, CH or MH) Clay or silty clay	1.00 1.00 1.00
610: Balcom-----	55	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
620: Typic Xerorthents, mesic	40	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40" Fragments (<75mm) 25-50%	1.00 1.00 0.59

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Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
620: Haploxerepts-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Fragments (<75mm) 25-50%	1.00 0.19
Xerorthents, sandy-----	18	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Seepage at 20-40" Bedrock depth from 40-60"	1.00 1.00 0.99	Limitations Slopes >15% Permeability >2.0 in/hr Depth to bedrock 40-60"	1.00 1.00 0.99
640: Bitcreek-----	40	Limitations Slopes >15% Clay or silty clay	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Silty clay or clay 10-60" Packing (OL, OH, CH or MH)	1.00 1.00 1.00
Dibble-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Clay loam, silty clay, silty clay loam	1.00 1.00 0.50	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40" Silt or clay textures from 10-60"	1.00 1.00 0.50
Eaglerest-----	15	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Fragments (<75mm) 25-50%	1.00 1.00 0.33
650: Lithic Argixerolls-----	50	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Fragments (3-10") 15-35%	1.00 1.00 0.07	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Fragments (>3") 25-50%	1.00 1.00 0.86
Lithic Xerorthents, mesic-----	25	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Fragments (>3") >50%	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
660: Elkhills-----	70	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
Legray-----	20	Limitations Slopes >15% Sandy textures (COSL, LS, LFS, or LVFS) Fragments (3-10") 15-35%	1.00 0.50 0.01	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr Texture is LCOS, LS, LFS, VFS	1.00 1.00 0.50
661: Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
Legray-----	40	Limitations Slopes >15% Sandy textures (COSL, LS, LFS, or LVFS) Fragments (3-10") 15-35%	1.00 0.50 0.01	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr Texture is LCOS, LS, LFS, VFS	1.00 1.00 0.50
670: Harrisranch-----	60	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
680: Milham-----	90	No limitations		No limitations		No Limitations	
690: Dibble-----	45	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Clay loam, silty clay, silty clay loam	1.00 1.00 0.50	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40" Silt or clay textures from 10-60"	1.00 1.00 0.50
Geghus-----	40	Limitations Slopes >15% Clay loam, silty clay, silty clay loam	1.00 0.50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Silt or clay textures from 10-60" Clay loam, silty clay, silty clay loam	1.00 0.50 0.50

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Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
700: Xerolls, loamy-skeletal-	55	Limitations Slopes >15% Fragments (3-10") > 35%	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Fragments (>3") 25-50% Fragments (<75mm) 25-50%	1.00 0.54 0.13
Los Gatos-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Clay loam, silty clay, silty clay loam	1.00 1.00 0.50	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40" Silt or clay textures from 10-60"	1.00 1.00 0.50
720: Friant-----	50	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Fragments (<75mm) 25-50%	1.00 1.00 0.96
Geghus-----	20	Limitations Slopes >15% Clay loam, silty clay, silty clay loam	1.00 0.50	Limitations Slopes >15%	1.00	Limitations Slopes >15% Silt or clay textures from 10-60" Clay loam, silty clay, silty clay loam	1.00 0.50 0.50
Lithic Xerorthents, thermic-----	20	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
724: Elkhills-----	90	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
725: Sodic Haplocambids, thick-----	85	Not rated		Limitations Seepage at 20-40" Slopes 8-15%	1.00 0.63	Not rated	

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
726: Sodic Haplocambids, thick-----	90	Not rated		Limitations Slopes >15% Seepage at 20-40"		Not rated	
727: Sodic Haplocambids, thick-----	90	Not rated		Limitations Slopes >15% Seepage at 20-40"		Not rated	
728: Torriorthents, very thin	85	Limitations Slopes >15% Lithic or paralithic bedrock at <72" EC >16 dS/m	1.00 1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
729: Sodic Haplocambids, thick-----	40	Not rated		Limitations Slopes >15% Seepage at 20-40"		Not rated	
Torriorthents, thin-----	30	Limitations Slopes >15% EC >16 dS/m	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Packing (OL, OH, CH or MH)	1.00 1.00
Torriorthents, very thin, eroded-----	15	Limitations Slopes >15% Lithic or paralithic bedrock at <72" EC >16 dS/m	1.00 1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
730: Haplocambids, thick-----	50	Limitations Slopes 8-15%	0.63	Limitations Slopes 8-15%	0.63	Limitations Slopes 8-15% Fragments (<75mm) 25-50%	0.63 0.20
Elkhills-----	30	Limitations Slopes 8-15%	0.63	Limitations Slopes 8-15%	0.63	Limitations Slopes 8-15% Permeability >2.0 in/hr	0.63 0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
731: Haplocambids, thick-----	45	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Fragments (<75mm) 25-50%	1.00 0.20
Elkhills-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
732: Elkhills-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
Haplocambids, thick-----	40	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Fragments (<75mm) 25-50%	1.00 0.20
733: Sodic Haplocambids, thick-----	50	Not rated		Limitations Slopes >15% Seepage at 20-40"	1.00 1.00	Not rated	
Torriorthents, thin-----	35	Limitations Slopes >15% EC >16 dS/m	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Packing (OL, OH, CH or MH)	1.00 1.00
734: Sodic Haplocambids, thick-----	40	Not rated		Limitations Slopes >15% Seepage at 20-40"	1.00 1.00	Not rated	
Torriorthents, very thin, eroded-----	25	Limitations Slopes >15% Lithic or paralithic bedrock at <72" EC >16 dS/m	1.00 1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
Elkhills-----	24	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
735: Sodic Haplocambids, thick-----	40	Not rated		Limitations Slopes >15% Seepage at 20-40"		Not rated	
Elkhills-----	25	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
Torriorthents, thin-----	20	Limitations Slopes >15% EC >16 dS/m	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Packing (OL, OH, CH or MH)	1.00 1.00
750: Ballinger-----	85	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Packing (OL, OH, CH or MH) Depth to bedrock <40"	1.00 1.00 1.00
760: Ballinger-----	85	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Packing (OL, OH, CH or MH) Depth to bedrock <40"	1.00 1.00 1.00
780: Stutzville-----	85	Limitations Flooding >= occasional EC >16 dS/m	1.00 1.00	Limitations Occasional flooding	0.60	No Limitations	
850: Xerofluvents-----	85	Limitations Flooding >= occasional Sandy textures (COS, S, FS, LCOS, or VFS) Seepage in bottom layer	1.00 1.00 1.00	Limitations Seepage at 20-40" Frequent flooding	1.00 0.80	Limitations Fragments (<75mm) >50% Texture is S, FS, COS, SG Permeability >2.0 in/hr	1.00 1.00 1.00
860: Hawk-----	90	Limitations Seepage in bottom layer Slopes 8-15% Flooding = rare	1.00 0.63 0.50	Limitations Seepage at 20-40" Slopes 8-15% Rare flooding	1.00 0.63 0.40	Limitations Fragments (<75mm) 25-50% Slopes 8-15% Permeability >2.0 in/hr	0.94 0.63 0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
870: Frazier-----	80	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40" Seepage at 20-40"	1.00 1.00 1.00	Limitations Fragments (<75mm) >50% Slopes >15% Depth to bedrock <40"	1.00 1.00 1.00
880: Chuchupate-----	90	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Seepage in bottom layer	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40" Seepage at 20-40"	1.00 1.00 1.00	Limitations Fragments (<75mm) >50% Slopes >15% Depth to bedrock <40"	1.00 1.00 1.00
890: Gorman-----	90	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00
919: Zonap-----	40	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Depth to bedrock <40"	1.00 1.00
Harrisranch-----	30	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00
Beam-----	15	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Depth to bedrock <40" Slopes >15% Permeability >2.0 in/hr	1.00 1.00 0.50
930: Bitcreek-----	40	Limitations Clay or silty clay Slopes >15%	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Silty clay or clay 10-60" Packing (OL, OH, CH or MH) Clay or silty clay	1.00 1.00 1.00
Shimmon-----	25	Limitations Lithic or paralithic bedrock at <72" Slopes >15% Clay loam, silty clay, silty clay loam	1.00 1.00 1.00 0.50	Limitations Bedrock at <40" Slopes >15%	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Silt or clay textures from 10-60"	1.00 1.00 0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
930: Balhud-----	15	Limitations Lithic or paralithic bedrock at <72" Slopes >15%	1.00 1.00	Limitations Bedrock at <40" Slopes >15%	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15%	1.00 1.00
932: Bitcreek-----	40	Limitations Slopes >15% Clay or silty clay	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Silty clay or clay 10-60" Packing (OL, OH, CH or MH)	1.00 1.00 1.00
Shimmon-----	25	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Clay loam, silty clay, silty clay loam	1.00 1.00 0.50	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40" Silt or clay textures from 10-60"	1.00 1.00 0.50
Balhud-----	20	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15%	1.00 1.00
940: Bitcreek-----	90	Limitations Clay or silty clay	1.00	No limitations		Limitations Silty clay or clay 10-60" Packing (OL, OH, CH or MH) Clay or silty clay	1.00 1.00 1.00
950: Pleito-----	40	Limitations Slopes >15% Seepage in bottom layer	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Permeability >2.0 in/hr	1.00 0.50
Ballinger-----	25	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15% Packing (OL, OH, CH or MH) Depth to bedrock <40"	1.00 1.00 1.00
Balhud-----	20	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15%	1.00 1.00

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
951:							
Bitcreek-----	40	Limitations Clay or silty clay Slopes >15%	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Silty clay or clay 10-60" Packing (OL, OH, CH or MH) Clay or silty clay	1.00 1.00 1.00
Balhud-----	30	Limitations Lithic or paralithic bedrock at <72" Slopes >15%	1.00 1.00	Limitations Bedrock at <40" Slopes >15%	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15%	1.00 1.00
Ballinger-----	15	Limitations Lithic or paralithic bedrock at <72" Slopes >15%	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Packing (OL, OH, CH or MH) Depth to bedrock <40" Slopes >15%	1.00 1.00 1.00
954:							
Typic Haploxeralfs, fine-	50	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Clay or silty clay	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15% Silty clay or clay 10-60"	1.00 1.00 1.00
Haploxerolls, coarse- loamy-----	30	Limitations Slopes >15% Lithic or paralithic bedrock at <72" Fragments (3-10") > 35%	1.00 1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Slopes >15% Depth to bedrock <40" Fragments (>3") >50%	1.00 1.00 1.00
955:							
Calcic Haploxerepts----	30	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00
Xerorthents, shallow----	25	Limitations Slopes >15% Lithic or paralithic bedrock at <72"	1.00 1.00	Limitations Slopes >15% Bedrock at <40"	1.00 1.00	Limitations Depth to bedrock <40" Slopes >15%	1.00 1.00
Badlands-----	20	Not rated		Not rated		Not rated	
970:							
Harrisranch-----	50	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00	Limitations Slopes >15%	1.00

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench type sanitary landfill		Area type sanitary landfill		Daily cover for landfill	
		Limitations	Value	Limitations	Value	Limitations	Value
970: Bitcreek-----	35	Limitations Clay or silty clay Slopes >15%	1.00 1.00	Limitations Slopes >15%	1.00	Limitations Silty clay or clay 10-60" Packing (OL, OH, CH or MH) Clay or silty clay	1.00 1.00 1.00
980: Area not surveyed, access denied-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Textures are abbreviated as: C--clay, CL--clay loam, COS--coarse sand, COSL--coarse sandy loam, FS--fine sand, FSL--fine sandy loam, L--loam, LCOS--loamy coarse sand, LFS--loamy fine sand, LS--loamy sand, LVFS--loamy very fine sand, S--sand, SC--sandy clay, SCL--sandy clay loam, SI--silt, SIC--silty clay, SICL--silty clay loam, SIL--silt loam, SL--sandy loam, VFS--very fine sand, and VFSL--very fine sandy loam.

The interpretation for trench sanitary landfills evaluates the following soil properties and characteristics: flooding, ponding, wetness, slope, depth to hard or soft bedrock, depth to a thick or thin cemented pan, rock fragments 3 to 10 inches in size, sodium content (SAR), pH, clayey or sandy textures, and permeability that is too rapid, allowing seepage in some climates.

The interpretation for area sanitary landfills evaluates the following soil properties and characteristics: flooding, ponding, wetness, slope, depth to bedrock, depth to a cemented pan, and permeability that is too rapid, allowing seepage in some climates.

The interpretation for daily cover for landfill evaluates the following soil properties and characteristics: ponding, wetness, slope, depth to bedrock, depth to a cemented pan, fragments greater than or less than 3 inches in size, Unified class for peat (PT), Unified classes for packing (OL, OH, CH, or MH), sandy or clayey textures, pH, carbonates, sodium content (SAR), salinity (EC), soil climate, kaolinitic mineralogy, and permeability that is too rapid, allowing seepage.

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
101: Bakersfield, drained	80	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Sodium content	0.02	Flooding	0.40
		Too acid	0.02	Too acid	0.07
				Sodium content	0.02
102: Bakersfield, partially drained--	85	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Sodium content	1.00	Sodium content	1.00
		Too acid	0.02	Flooding	0.40
		Salinity	0.01	Too acid	0.07
110: Buttonwillow, partially drained--	75	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Sodium content	0.08	Flooding	0.40
				Sodium content	0.08
120: Granoso-----	85	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Droughty	0.30	Flooding	0.40
				Droughty	0.30
121: Granoso-----	85	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Droughty	0.10	Flooding	0.40
				Droughty	0.10
122: Granoso, loamy substratum-----	85	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
				Flooding	0.40

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
123: Granoso-----	85	Very limited Filtering capacity Droughty	1.00 0.16	Very limited Filtering capacity Flooding Droughty	1.00 0.40 0.16
124: Granoso-----	90	Very limited Filtering capacity Droughty	1.00 0.61	Very limited Filtering capacity Droughty Flooding	1.00 0.61 0.40
130: Cerini-----	85	Not limited		Somewhat limited Flooding	0.40
131: Calflax-----	85	Somewhat limited Slow water movement Sodium content Salinity	0.50 0.50 0.01	Somewhat limited Sodium content Flooding Slow water movement Salinity	0.50 0.40 0.37 0.01
132: Cerini-----	85	Not limited		Somewhat limited Flooding	0.40
133: Calflax-----	85	Somewhat limited Slow water movement Sodium content Salinity	0.50 0.50 0.01	Somewhat limited Sodium content Flooding Slow water movement Salinity	0.50 0.40 0.37 0.01
134: Cerini-----	85	Not limited		Somewhat limited Flooding	0.40
140: Copus silty clay, partially drained--	85	Very limited Slow water movement Too acid Salinity	1.00 0.27 0.01	Very limited Slow water movement Too acid Flooding Salinity	1.00 0.85 0.40 0.13
141: Copus clay, partially drained--	95	Very limited Slow water movement Too acid Salinity	1.00 0.27 0.01	Very limited Slow water movement Too acid Flooding Salinity	1.00 0.85 0.40 0.13

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
150: Excelsior-----	85	Very limited Filtering capacity	0.99	Very limited Filtering capacity Flooding	0.99 0.40
151: Excelsior, saline- sodic-----	85	Very limited Filtering capacity Salinity	0.99 0.01	Very limited Filtering capacity Flooding Salinity	0.99 0.40 0.01
152: Excelsior-----	85	Very limited Filtering capacity	0.99	Very limited Filtering capacity Flooding	0.99 0.40
153: Tupman-----	80	Very limited Filtering capacity Droughty	0.99 0.01	Very limited Filtering capacity Flooding Droughty	0.99 0.40 0.01
154: Tupman-----	70	Very limited Filtering capacity Droughty	0.99 0.01	Very limited Filtering capacity Flooding Droughty	0.99 0.40 0.01
Urban land-----	20	Not rated		Not rated	
160: Fages-----	80	Very limited Slow water movement Sodium content Salinity Runoff Droughty	1.00 1.00 1.00 0.40 0.01	Very limited Sodium content Slow water movement Salinity Flooding Droughty	1.00 1.00 1.00 0.40 0.01
179: Padres-----	70	Not limited		Not limited	
180: Garces-----	85	Very limited Sodium content Salinity Slow water movement	1.00 0.78 0.50	Very limited Sodium content Flooding Slow water movement Salinity	1.00 0.40 0.37 0.13
190: Guijarral-----	85	Not limited		Somewhat limited Flooding	0.40

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
191: Guijarral-----	85	Not limited		Somewhat limited Flooding	0.40
192: Guijarral-----	45	Not limited		Somewhat limited Flooding	0.40
Klipstein-----	45	Very limited Droughty Large stones content	1.00 0.76	Very limited Droughty Flooding	1.00 0.40
193: Guijarral-----	85	Somewhat limited Droughty	0.11	Somewhat limited Droughty	0.11
195: Guijarral, extremely gravelly substratum	60	Somewhat limited Droughty	0.11	Somewhat limited Droughty	0.11
Guijarral-----	30	Not limited		Not limited	
197: Klipstein-----	60	Very limited Large stones content Droughty Slope	1.00 1.00 0.16	Very limited Droughty Flooding Slope	1.00 0.40 0.16
Guijarral-----	25	Somewhat limited Slope Droughty	0.16 0.11	Somewhat limited Flooding Slope Droughty	0.40 0.16 0.11
200: Hesperia-----	85	Not limited		Somewhat limited Flooding	0.40
201: Hesperia-----	85	Not limited		Somewhat limited Flooding	0.40
210: Kimberlina-----	85	Not limited		Somewhat limited Flooding	0.40
211: Kimberlina-----	80	Not limited		Somewhat limited Flooding	0.40

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
212: Kimberlina, saline- sodic-----	85	Very limited Sodium content Slow water movement Salinity	1.00 0.50 0.06	Very limited Sodium content Salinity Flooding Slow water movement	1.00 0.50 0.40 0.37
214: Kimberlina-----	85	Not limited		Somewhat limited Flooding	0.40
215: Kimberlina-----	85	Not limited		Not limited	
216: Kimberlina, occasionally flooded-----	50	Somewhat limited Flooding	0.60	Very limited Flooding	1.00
Granoso, occasionally flooded-----	35	Very limited Filtering capacity Droughty Flooding	1.00 0.91 0.60	Very limited Filtering capacity Flooding Droughty	1.00 1.00 0.91
217: Kimberlina-----	50	Not limited		Somewhat limited Flooding	0.20
Urban land-----	35	Not rated		Not rated	
219: Xerorthents-----	50	Very limited Slope Droughty Depth to bedrock Sodium content	1.00 1.00 0.80 0.02	Very limited Slope Droughty Depth to bedrock Sodium content	1.00 1.00 0.80 0.02
Badlands-----	35	Not rated		Not rated	
220: Lokern, drained-----	85	Very limited Slow water movement Sodium content	1.00 0.08	Very limited Slow water movement Flooding Sodium content	1.00 0.40 0.08

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
221: Lokern, partially drained-----	85	Very limited Slow water movement Sodium content Salinity	1.00 1.00 0.06	Very limited Slow water movement Sodium content Salinity Flooding	1.00 1.00 0.50 0.40
230: Milagro-----	85	Very limited Filtering capacity Sodium content	0.99 0.02	Very limited Filtering capacity Flooding Sodium content	0.99 0.40 0.02
231: Milagro-----	85	Very limited Filtering capacity Sodium content	0.99 0.02	Very limited Filtering capacity Flooding Sodium content	0.99 0.40 0.02
240: Millox, partially drained-----	85	Very limited Slow water movement Sodium content Droughty Salinity	1.00 1.00 0.13 0.06	Very limited Sodium content Slow water movement Flooding Droughty	1.00 1.00 0.40 0.13
241: Millox, partially drained, nonsaline-	85	Very limited Slow water movement	1.00	Very limited Slow water movement Flooding	1.00 0.40
242: Millox, partially drained-----	55	Very limited Slow water movement Sodium content Droughty Salinity	1.00 1.00 0.19 0.06	Very limited Sodium content Slow water movement Flooding Droughty	1.00 1.00 0.40 0.19
Tennco-----	35	Very limited Sodium content Salinity	1.00 1.00	Very limited Salinity Sodium content Flooding	1.00 1.00 0.40

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
243: Millox, partially drained-----	50	Very limited Slow water movement	1.00	Very limited Slow water movement Flooding	1.00 0.40
Zalvidea, partially drained-----	35	Somewhat limited Slow water movement Salinity	0.50 0.01	Somewhat limited Flooding Slow water movement Salinity	0.40 0.37 0.13
246: Whitewolf-----	85	Very limited Filtering capacity Droughty	0.99 0.24	Very limited Filtering capacity Flooding Droughty	0.99 0.40 0.24
250: Oldriver-----	85	Very limited Slow water movement Sodium content	1.00 0.08	Very limited Slow water movement Flooding Sodium content	1.00 0.40 0.08
251: Oldriver, partially drained, sodic-----	85	Very limited Sodium content Slow water movement Salinity	1.00 1.00 0.22	Very limited Sodium content Slow water movement Flooding	1.00 1.00 0.40
260: Panoche-----	85	Not limited		Somewhat limited Flooding	0.40
270: Pits-----	50	Not rated		Not rated	
Dumps-----	50	Not rated		Not rated	
280: Premier-----	85	Not limited		Somewhat limited Flooding	0.40
281: Premier-----	85	Not limited		Somewhat limited Flooding	0.20
290: Riverwash-----	85	Not rated		Not rated	

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
300:					
Tennco-----	85	Very limited Sodium content Salinity	1.00 1.00	Very limited Salinity Sodium content Flooding	1.00 1.00 0.40
310:					
Vineland, drained---	85	Very limited Filtering capacity Droughty	1.00 0.02	Very limited Filtering capacity Flooding Droughty	1.00 0.40 0.02
312:					
Vineland, drained---	50	Very limited Filtering capacity Droughty	1.00 0.02	Very limited Filtering capacity Flooding Droughty	1.00 0.40 0.02
Bakersfield, drained-	40	Very limited Filtering capacity Sodium content Too acid	1.00 0.02 0.02	Very limited Filtering capacity Flooding Too acid Sodium content	1.00 0.40 0.07 0.02
320:					
Wasco-----	85	Not limited		Somewhat limited Flooding	0.40
330:					
Cuyama-----	85	Somewhat limited Sodium content	0.68	Somewhat limited Sodium content Flooding	0.68 0.40
331:					
Cuyama-----	85	Somewhat limited Sodium content Slope	0.68 0.16	Somewhat limited Sodium content Slope	0.68 0.16
332:					
Cuyama-----	85	Very limited Slope Sodium content	1.00 0.68	Very limited Slope Sodium content	1.00 0.68
340:					
Weedpatch-----	85	Somewhat limited Slow water movement Sodium content Salinity	0.50 0.32 0.02	Somewhat limited Flooding Slow water movement Sodium content Salinity	0.40 0.37 0.32 0.15

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
350: Posochanet, saline- sodic-----	85	Very limited Salinity Sodium content Slow water movement	1.00 1.00 1.00	Very limited Sodium content Salinity Slow water movement Flooding	1.00 1.00 1.00 0.40
351: Posochanet, saline- sodic-----	75	Very limited Salinity Sodium content Slow water movement	1.00 1.00 1.00	Very limited Sodium content Salinity Slow water movement Flooding	1.00 1.00 1.00 0.40
352: Posochanet-----	70	Very limited Salinity Sodium content Slow water movement	1.00 1.00 1.00	Very limited Sodium content Salinity Slow water movement Flooding	1.00 1.00 1.00 0.40
Posochanet, partially reclaimed	20	Very limited Slow water movement Salinity Sodium content	1.00 0.65 0.50	Very limited Slow water movement Salinity Sodium content Flooding	1.00 1.00 0.50 0.40
360: Wheelridge-----	85	Very limited Filtering capacity Droughty	1.00 0.87	Very limited Filtering capacity Droughty Flooding	1.00 0.87 0.40
370: Whitewolf-----	85	Very limited Filtering capacity Droughty	0.99 0.24	Very limited Filtering capacity Flooding Droughty	0.99 0.40 0.24
371: Whitewolf-----	85	Very limited Filtering capacity Droughty	0.99 0.24	Very limited Filtering capacity Flooding Droughty	0.99 0.40 0.24

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
380: Zalvidea, partially drained-----	85	Somewhat limited Slow water movement Salinity	0.50 0.01	Somewhat limited Flooding Slow water movement Salinity	0.40 0.37 0.13
381: Zalvidea, partially drained-----	85	Somewhat limited Slow water movement Salinity	0.50 0.01	Somewhat limited Flooding Slow water movement Salinity	0.40 0.37 0.13
389: Xerofluvents-----	30	Very limited Filtering capacity Droughty Flooding	0.99 0.99 0.60	Very limited Flooding Filtering capacity Droughty	1.00 0.99 0.99
Haploxerepts-----	30	Somewhat limited Droughty	0.01	Somewhat limited Flooding Droughty	0.40 0.01
Riverwash-----	15	Not rated		Not rated	
390: Pleito-----	85	Not limited		Somewhat limited Flooding	0.40
391: Pleito-----	80	Not limited		Somewhat limited Flooding	0.40
392: Pleito-----	85	Not limited		Not limited	
393: Pleito-----	85	Very limited Slope	1.00	Very limited Slope	1.00
394: Pleito-----	45	Very limited Slope	1.00	Very limited Slope	1.00
Xeric Torriorthents, very gravelly-----	40	Very limited Slope Droughty Depth to bedrock Large stones on the surface Sodium content	1.00 1.00 0.80 0.18 0.08	Very limited Slope Droughty Depth to bedrock Large stones on the surface Sodium content	1.00 1.00 0.80 0.18 0.08

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
395:					
Pleito-----	50	Very limited Slope	1.00	Very limited Slope	1.00
Emidio-----	20	Very limited Slope	1.00	Very limited Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
		Too acid	0.08	Too acid	0.31
Loslobos-----	15	Very limited Slope	1.00	Very limited Slope	1.00
396:					
Pleito-----	60	Very limited Slope	1.00	Very limited Slope	1.00
Loslobos-----	25	Very limited Slope	1.00	Very limited Slope	1.00
398:					
Calcic Haploxerepts-	30	Very limited Slope	1.00	Very limited Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
Calcic Pachic Argixerolls, fine---	25	Very limited Slope	1.00	Very limited Slope	1.00
		Slow water movement	1.00	Slow water movement	1.00
Xerorthents, shallow	20	Very limited Slope	1.00	Very limited Droughty	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40	Sodium content	0.18
		Sodium content	0.18		
400:					
Loslobos-----	35	Very limited Slope	1.00	Very limited Slope	1.00
Xeric Torriorthents, very gravelly-----	25	Very limited Slope	1.00	Very limited Slope	1.00
		Droughty	1.00	Droughty	1.00
		Depth to bedrock	0.80	Depth to bedrock	0.80
		Large stones on the surface	0.18	Large stones on the surface	0.18
		Sodium content	0.08	Sodium content	0.08
Badlands-----	20	Not rated		Not rated	
401:					
Loslobos-----	85	Very limited Slope	1.00	Very limited Slope	1.00

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
402:					
Loslobos-----	40	Very limited Slope	1.00	Very limited Slope	1.00
Walong-----	30	Very limited Droughty Slope	1.00	Very limited Droughty Slope	1.00
		Large stones on the surface	1.00	Large stones on the surface	1.00
		Large stones content	1.00	Depth to bedrock	0.54
		Depth to bedrock	0.54		
403:					
Loslobos-----	45	Very limited Slope	1.00	Very limited Slope	1.00
Calleguas-----	35	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Droughty	1.00
		Slow water movement	0.50	Slow water movement	0.37
		Runoff	0.40	Sodium content	0.02
404:					
Loslobos, moist-----	85	Very limited Slope	1.00	Very limited Slope	1.00
430:					
Littlesignal-----	45	Very limited Slope	1.00	Very limited Slope	1.00
Cochora-----	40	Very limited Slope	1.00	Very limited Droughty Slope	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40		
431:					
Littlesignal-----	50	Very limited Slope	1.00	Very limited Slope	1.00
Cochora-----	35	Very limited Slope	1.00	Very limited Droughty Slope	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40		
432:					
Littlesignal-----	45	Very limited Slope	1.00	Very limited Slope	1.00
Badlands-----	25	Not rated		Not rated	

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
432: Cochora-----	20	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40		
440: Elkhills-----	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	0.02	Sodium content	0.02
Pyxo-----	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.46	Depth to bedrock	0.46
		Droughty	0.27	Droughty	0.27
		Sodium content	0.08	Sodium content	0.08
441: Sodic Haplocambids, thick-----	60	Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Salinity	0.50		
442: Elkhills-----	80	Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16
		Sodium content	0.02	Sodium content	0.02
443: Elkhills-----	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	0.02	Sodium content	0.02
Badlands-----	40	Not rated		Not rated	
444: Elkhills-----	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	0.02	Sodium content	0.02
445: Sodic Haplocambids, thick-----	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	1.00	Sodium content	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Salinity	0.50		
Elkhills-----	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	0.02	Sodium content	0.02

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
451:					
Beam-----	35	Very limited Slope Depth to bedrock Droughty Runoff Sodium content	1.00 1.00 1.00 0.40 0.08	Very limited Slope Depth to bedrock Droughty Sodium content	1.00 1.00 1.00 0.08
Panoza-----	30	Very limited Slope Depth to bedrock Droughty	1.00 0.90 0.45	Very limited Slope Depth to bedrock Droughty	1.00 0.90 0.45
Hillbrick-----	15	Very limited Slope Depth to bedrock Droughty Runoff	1.00 1.00 0.99 0.40	Very limited Slope Depth to bedrock Droughty	1.00 1.00 0.99
460:					
Geghus-----	50	Very limited Slope	1.00	Very limited Slope	1.00
Tecuya-----	30	Very limited Large stones content Slope Droughty	1.00 0.63 0.01	Somewhat limited Slope Droughty	0.63 0.01
461:					
Geghus-----	50	Very limited Slope	1.00	Very limited Slope	1.00
Tecuya-----	35	Very limited Slope Droughty	1.00 0.01	Very limited Slope Droughty	1.00 0.01
462:					
Geghus-----	55	Very limited Slope	1.00	Very limited Slope	1.00
Xeric Torriorthents, very gravelly-----	30	Very limited Slope Droughty Depth to bedrock Large stones on the surface Sodium content	1.00 1.00 0.80 0.18 0.08	Very limited Slope Droughty Depth to bedrock Large stones on the surface Sodium content	1.00 1.00 0.80 0.18 0.08
470:					
Pyxo-----	55	Very limited Slope Droughty Sodium content Depth to bedrock	1.00 0.27 0.08 0.01	Very limited Slope Droughty Sodium content Depth to bedrock	1.00 0.27 0.08 0.01

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
470:					
Cochora-----	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Droughty	1.00
		Runoff	0.40		
471:					
Pyxo-----	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.65	Depth to bedrock	0.65
		Droughty	0.40	Droughty	0.40
		Sodium content	0.08	Sodium content	0.08
Cochora-----	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Droughty	1.00
		Runoff	0.40		
Badlands-----	15	Not rated		Not rated	
472:					
Pyxo-----	30	Somewhat limited		Somewhat limited	
		Depth to bedrock	0.46	Depth to bedrock	0.46
		Droughty	0.27	Droughty	0.27
		Slope	0.16	Slope	0.16
		Sodium content	0.08	Sodium content	0.08
Kimberlina-----	30	Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16
Cochora-----	25	Very limited		Very limited	
		Droughty	1.00	Droughty	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40	Slope	0.16
		Slope	0.16		
480:					
Pyxo, dry-----	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.46	Depth to bedrock	0.46
		Droughty	0.27	Droughty	0.27
		Sodium content	0.08	Sodium content	0.08
Elkhills-----	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	0.02	Sodium content	0.02
490:					
Padres-----	65	Not limited		Not limited	
500:					
Bitcreek-----	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Sodium content	0.02	Sodium content	0.02

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
510:					
Beam-----	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Droughty	1.00
		Runoff	0.40	Sodium content	0.08
		Sodium content	0.08		
Panoza-----	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.90	Depth to bedrock	0.90
		Droughty	0.45	Droughty	0.45
Hillbrick-----	15	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	0.99	Droughty	0.99
		Runoff	0.40		
511:					
Beam-----	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Droughty	1.00
		Runoff	0.40	Sodium content	0.08
		Sodium content	0.08		
Panoza-----	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.90	Depth to bedrock	0.90
		Droughty	0.45	Droughty	0.45
Hillbrick-----	15	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	0.99	Droughty	0.99
		Runoff	0.40		
515:					
Zonap-----	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.80	Depth to bedrock	0.80
		Droughty	0.61	Droughty	0.61
Badlands-----	20	Not rated		Not rated	
Beam-----	15	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40	Sodium content	0.08
		Sodium content	0.08		
516:					
Zonap-----	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.80	Depth to bedrock	0.80
		Droughty	0.61	Droughty	0.61
		Sodium content	0.02	Sodium content	0.02

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
516:					
Beam-----	40	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40	Sodium content	0.08
		Sodium content	0.08		
530:					
Tehachapi-----	80	Not rated		Somewhat limited	
				Too acid	0.03
531:					
Tehachapi-----	85	Not rated		Very limited	
				Slope	1.00
				Too acid	0.03
540:					
Xeric Torriorthents-	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.99	Droughty	0.99
Badlands-----	25	Not rated		Not rated	
550:					
Elkhills-----	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	0.02	Sodium content	0.02
Welport-----	45	Very limited		Very limited	
		Depth to cemented pan	1.00	Droughty	1.00
		Droughty	1.00	Depth to cemented pan	1.00
		Slope	0.63	Slope	0.63
		Runoff	0.40	Sodium content	0.02
		Sodium content	0.02		
560:					
Laval-----	44	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Droughty	1.00	Droughty	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
Pleitito-----	44	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Flooding	1.00	Flooding	1.00
561:					
Laval-----	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Droughty	1.00	Droughty	1.00
		Filtering capacity	0.99	Filtering capacity	0.99

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
561: Pleitito-----	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Flooding	1.00	Flooding	1.00
		Slope	0.16	Slope	0.16
570: Hillbrick-----	65	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	0.99	Droughty	0.99
		Runoff	0.40		
Rock outcrop-----	15	Not rated		Not rated	
571: Hillbrick-----	65	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	0.99	Droughty	0.99
		Runoff	0.40		
Rock outcrop-----	15	Not rated		Not rated	
580: Reward-----	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
Hillbrick-----	45	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40		
581: Reward-----	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
583: Bellyspring-----	35	Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63
		Depth to bedrock	0.01	Depth to bedrock	0.01
		Droughty	0.01	Droughty	0.01
Panoza-----	25	Somewhat limited		Somewhat limited	
		Depth to bedrock	0.90	Depth to bedrock	0.90
		Slope	0.63	Slope	0.63
		Droughty	0.45	Droughty	0.45
584: Bellyspring-----	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.01	Depth to bedrock	0.01
		Droughty	0.01	Droughty	0.01

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
584: Panoza-----	30	Very limited Slope Depth to bedrock Droughty	1.00 0.90 0.45	Very limited Slope Depth to bedrock Droughty	1.00 0.90 0.45
585: Bellyspring-----	35	Very limited Slope Depth to bedrock Droughty	1.00 0.01 0.01	Very limited Slope Depth to bedrock Droughty	1.00 0.01 0.01
Panoza-----	30	Very limited Slope Depth to bedrock Droughty	1.00 0.90 0.45	Very limited Slope Depth to bedrock Droughty	1.00 0.90 0.45
586: Panoza-----	40	Very limited Slope Depth to bedrock Droughty	1.00 0.90 0.45	Very limited Slope Depth to bedrock Droughty	1.00 0.90 0.45
Beam-----	30	Very limited Slope Depth to bedrock Droughty Runoff Sodium content	1.00 1.00 1.00 0.40 0.08	Very limited Slope Depth to bedrock Droughty Sodium content	1.00 1.00 1.00 0.08
587: Panoza-----	40	Very limited Slope Depth to bedrock Droughty	1.00 0.90 0.45	Very limited Slope Depth to bedrock Droughty	1.00 0.90 0.45
Beam-----	30	Very limited Slope Depth to bedrock Droughty Runoff Sodium content	1.00 1.00 1.00 0.40 0.08	Very limited Slope Depth to bedrock Droughty Sodium content	1.00 1.00 1.00 0.08
588: Panoza-----	40	Very limited Slope Depth to bedrock Droughty	1.00 0.90 0.45	Very limited Slope Depth to bedrock Droughty	1.00 0.90 0.45
Beam-----	30	Very limited Slope Depth to bedrock Droughty Runoff Sodium content	1.00 1.00 1.00 0.40 0.08	Very limited Slope Depth to bedrock Droughty Sodium content	1.00 1.00 1.00 0.08

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
590:					
Gorman-----	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
		Too acid	0.01	Too acid	0.03
Typic Xerorthents, mesic-----	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.37	Droughty	0.37
		Depth to bedrock	0.16	Depth to bedrock	0.16
		Sodium content	0.08	Sodium content	0.08
Xerorthents, shallow	20	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40	Sodium content	0.18
		Sodium content	0.18		
591:					
Geghus-----	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
Selby-----	40	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
		Cobble content	1.00	Cobble content	1.00
		Depth to bedrock	0.84	Depth to bedrock	0.84
600:					
Positas-----	45	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
Bitcreek-----	35	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Sodium content	0.02	Sodium content	0.02
610:					
Balcom-----	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.20	Depth to bedrock	0.20
Rock outcrop-----	20	Not rated		Not rated	
620:					
Typic Xerorthents, mesic-----	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.37	Droughty	0.37
		Depth to bedrock	0.16	Depth to bedrock	0.16
		Sodium content	0.08	Sodium content	0.08
Haploxerepts-----	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.01	Droughty	0.01

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
620:					
Xerorthents, sandy--	18	Very limited Slope	1.00	Very limited Slope	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Droughty	0.99	Droughty	0.99
640:					
Bitcreek-----	40	Very limited Slope	1.00	Very limited Slope	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Sodium content	0.02	Sodium content	0.02
Dibble-----	30	Not rated		Very limited Slope	1.00
				Slow water movement	1.00
				Droughty	0.13
				Depth to bedrock	0.01
Eaglerest-----	15	Very limited Slope	1.00	Very limited Droughty	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40	Sodium content	0.02
		Sodium content	0.02		
650:					
Lithic Argixerolls--	50	Very limited Slope	1.00	Very limited Droughty	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40		
Lithic Xerorthents, mesic-----	25	Very limited Slope	1.00	Very limited Droughty	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Large stones on the surface	1.00	Large stones on the surface	1.00
		Droughty	1.00	Slope	1.00
		Large stones content	1.00	Cobble content	0.87
Rock outcrop-----	15	Not rated		Not rated	
660:					
Elkhills-----	70	Very limited Slope	1.00	Very limited Slope	1.00
		Sodium content	0.02	Sodium content	0.02
Legray-----	20	Very limited Slope	1.00	Very limited Slope	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Droughty	0.28	Droughty	0.28
		Sodium content	0.02	Sodium content	0.02

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
661:					
Elkhills-----	40	Very limited Slope Sodium content	1.00 0.02	Very limited Slope Sodium content	1.00 0.02
Legray-----	40	Very limited Slope Filtering capacity Droughty Sodium content	1.00 0.99 0.28 0.02	Very limited Slope Filtering capacity Droughty Sodium content	1.00 0.99 0.28 0.02
670:					
Harrisranch-----	60	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	20	Not rated		Not rated	
680:					
Milham-----	90	Very limited Filtering capacity	0.99	Very limited Filtering capacity	0.99
690:					
Dibble-----	45	Not rated		Very limited Slope Slow water movement Droughty Depth to bedrock	1.00 1.00 0.13 0.01
Geghus-----	40	Very limited Slope	1.00	Very limited Slope	1.00
700:					
Xerolls, loamy-skeletal-----	55	Very limited Slope Droughty	1.00 0.95	Very limited Slope Droughty	1.00 0.95
Los Gatos-----	30	Very limited Slope Droughty Depth to bedrock Slow water movement Too acid	1.00 0.84 0.54 0.50 0.22	Very limited Slope Droughty Too acid Depth to bedrock Slow water movement	1.00 0.84 0.77 0.54 0.37
720:					
Friant-----	50	Very limited Slope Droughty Depth to bedrock Runoff	1.00 1.00 1.00 0.40	Very limited Droughty Slope Depth to bedrock	1.00 1.00 1.00
Geghus-----	20	Very limited Slope	1.00	Very limited Slope	1.00

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
720: Lithic Xerorthents, thermic-----	20	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Slope	1.00
		Runoff	0.40		
724: Elkhills-----	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	0.02	Sodium content	0.02
725: Sodic Haplocambids, thick-----	85	Very limited		Very limited	
		Sodium content	1.00	Sodium content	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Slope	0.63	Slope	0.63
		Salinity	0.50		
726: Sodic Haplocambids, thick-----	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	1.00	Sodium content	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Salinity	0.50		
727: Sodic Haplocambids, thick-----	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	1.00	Sodium content	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Salinity	0.50		
728: Torriorthents, very thin-----	85	Very limited		Very limited	
		Slope	1.00	Salinity	1.00
		Salinity	1.00	Sodium content	1.00
		Sodium content	1.00	Slope	1.00
		Droughty	0.77	Droughty	0.77
		Slow water movement	0.50	Slow water movement	0.37
729: Sodic Haplocambids, thick-----	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	1.00	Sodium content	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Salinity	0.50		

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
729:					
Torriorthents, thin-	30	Very limited		Very limited	
		Slope	1.00	Sodium content	1.00
		Salinity	1.00	Slope	1.00
		Sodium content	1.00		
Torriorthents, very thin, eroded-----	15	Very limited		Very limited	
		Slope	1.00	Salinity	1.00
		Salinity	1.00	Sodium content	1.00
		Sodium content	1.00	Slope	1.00
		Droughty	0.77	Droughty	0.77
		Slow water movement	0.50	Slow water movement	0.37
730:					
Haplocambids, thick-	50	Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63
		Sodium content	0.08	Sodium content	0.08
Elkhills-----	30	Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63
		Sodium content	0.02	Sodium content	0.02
731:					
Haplocambids, thick-	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	0.82	Sodium content	0.82
Elkhills-----	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	0.02	Sodium content	0.02
732:					
Elkhills-----	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	0.02	Sodium content	0.02
Haplocambids, thick-	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	0.82	Sodium content	0.82
733:					
Sodic Haplocambids, thick-----	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Sodium content	1.00	Sodium content	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Salinity	0.50		
Torriorthents, thin-	35	Very limited		Very limited	
		Slope	1.00	Sodium content	1.00
		Salinity	1.00	Slope	1.00
		Sodium content	1.00		

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
734: Sodic Haplocambids, thick-----	40	Very limited Slope Sodium content Slow water movement Salinity	1.00 1.00 1.00 1.00 0.50	Very limited Slope Sodium content Slow water movement	1.00 1.00 1.00 1.00
Torriorthents, very thin, eroded-----	25	Very limited Slope Salinity Sodium content Droughty Slow water movement	1.00 1.00 1.00 0.77 0.50	Very limited Salinity Sodium content Slope Droughty Slow water movement	1.00 1.00 1.00 0.77 0.37
Elkhills-----	24	Very limited Slope Sodium content	1.00 1.00 0.02	Very limited Slope Sodium content	1.00 1.00 0.02
735: Sodic Haplocambids, thick-----	40	Very limited Slope Sodium content Slow water movement Salinity	1.00 1.00 1.00 1.00 0.50	Very limited Slope Sodium content Slow water movement	1.00 1.00 1.00 1.00
Elkhills-----	25	Very limited Slope Sodium content	1.00 1.00 0.02	Very limited Slope Sodium content	1.00 1.00 0.02
Torriorthents, thin-	20	Very limited Slope Salinity Sodium content	1.00 1.00 1.00	Very limited Sodium content Slope	1.00 1.00
750: Ballinger-----	85	Very limited Slope Slow water movement Salinity Droughty Depth to bedrock	1.00 1.00 1.00 0.99 0.84 0.42	Very limited Slope Slow water movement Salinity Droughty Depth to bedrock	1.00 1.00 1.00 1.00 0.84 0.42
760: Ballinger-----	85	Very limited Slope Slow water movement Salinity Droughty Depth to bedrock	1.00 1.00 1.00 0.99 0.84 0.42	Very limited Slope Slow water movement Salinity Droughty Depth to bedrock	1.00 1.00 1.00 1.00 0.84 0.42

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
780: Stutzville-----	85	Very limited Slow water movement Salinity Sodium content Flooding	1.00 1.00 0.99 0.60	Very limited Salinity Flooding Slow water movement Sodium content	1.00 1.00 1.00 0.99
850: Xerofluvents-----	85	Very limited Flooding Filtering capacity Droughty	1.00 0.99 0.99	Very limited Flooding Filtering capacity Droughty	1.00 0.99 0.99
860: Hawk-----	90	Not rated		Not rated	
870: Frazier-----	80	Very limited Slope Droughty Depth to bedrock	1.00 1.00 0.95	Very limited Droughty Slope Depth to bedrock	1.00 1.00 0.95
880: Chuchupate-----	90	Not rated		Not rated	
890: Gorman-----	90	Very limited Slope Slow water movement Too acid	1.00 0.50 0.01	Very limited Slope Slow water movement Too acid	1.00 0.37 0.03
919: Zonap-----	40	Very limited Slope Depth to bedrock Droughty Sodium content	1.00 0.80 0.61 0.02	Very limited Slope Depth to bedrock Droughty Sodium content	1.00 0.80 0.61 0.02
Harrisranch-----	30	Very limited Slope	1.00	Very limited Slope	1.00
Beam-----	15	Very limited Slope Droughty Depth to bedrock Runoff	1.00 1.00 1.00 0.40	Very limited Droughty Slope Depth to bedrock	1.00 1.00 1.00
930: Bitcreek-----	40	Very limited Slope Slow water movement Sodium content	1.00 1.00 0.02	Very limited Slope Slow water movement Sodium content	1.00 1.00 0.02

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
930:					
Shimmon-----	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.99	Depth to bedrock	0.99
		Droughty	0.98	Droughty	0.98
		Slow water movement	0.50	Slow water movement	0.37
Balhud-----	15	Very limited		Very limited	
		Depth to bedrock	1.00	Droughty	1.00
		Droughty	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
		Runoff	0.40		
932:					
Bitcreek-----	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Sodium content	0.02	Sodium content	0.02
Shimmon-----	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.99	Depth to bedrock	0.99
		Droughty	0.98	Droughty	0.98
		Slow water movement	0.50	Slow water movement	0.37
Balhud-----	20	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
		Runoff	0.40		
940:					
Bitcreek-----	90	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Sodium content	0.02	Sodium content	0.02
950:					
Pleito-----	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
Ballinger-----	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Salinity	0.99	Salinity	1.00
		Droughty	0.49	Droughty	0.49
		Runoff	0.40	Sodium content	0.08

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
950:					
Balhud-----	20	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
		Runoff	0.40		
951:					
Bitcreek-----	40	Very limited		Very limited	
		Slope	1.00	Slow water movement	1.00
		Slow water movement	1.00	Slope	1.00
		Sodium content	0.02	Sodium content	0.02
Balhud-----	30	Very limited		Very limited	
		Depth to bedrock	1.00	Droughty	1.00
		Droughty	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37
		Runoff	0.40		
Ballinger-----	15	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Slope	1.00	Salinity	1.00
		Salinity	0.99	Slope	1.00
		Droughty	0.49	Droughty	0.49
		Runoff	0.40	Sodium content	0.08
954:					
Typic Haploxeralfs, fine-----	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Droughty	1.00	Droughty	1.00
		Depth to bedrock	0.90	Depth to bedrock	0.90
		Runoff	0.40		
Haploxerolls, coarse-loamy-----	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	1.00	Droughty	1.00
		Depth to bedrock	0.16	Depth to bedrock	0.16
955:					
Calcic Haploxerepts-	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Slow water movement	0.37

Soil Survey of Kern County, California, Southwest Part

Table 14.--Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
955:					
Xerorthents, shallow	25	Very limited Slope	1.00	Very limited Droughty	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40		
Badlands-----	20	Not rated		Not rated	
970:					
Harrisranch-----	50	Very limited Slope	1.00	Very limited Slope	1.00
Bitcreek-----	35	Very limited Slope	1.00	Very limited Slope	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Sodium content	0.02	Sodium content	0.02
980:					
Area not surveyed, access denied-----	100	Not rated		Not rated	
W:					
Water-----	100	Not rated		Not rated	

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Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
101: Bakersfield, drained	80	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Too acid	0.07	Too level	0.50
		Sodium content	0.02	Flooding	0.40
				Too acid	0.07
				Sodium content	0.02
102: Bakersfield, partially drained--	85	Very limited		Very limited	
		Filtering capacity	1.00	Sodium content	1.00
		Sodium content	1.00	Seepage	1.00
		Too acid	0.07	Too level	0.50
				Flooding	0.40
				Too acid	0.07
110: Buttonwillow, partially drained--	75	Very limited		Somewhat limited	
		Slow water movement	1.00	Too level	0.50
		Filtering capacity	0.99	Flooding	0.40
		Sodium content	0.08	Sodium content	0.08
120: Granoso-----	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Droughty	0.30	Flooding	0.40
121: Granoso-----	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Droughty	0.10	Flooding	0.40
		Too steep for surface application	0.08		
122: Granoso, loamy substratum-----	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Flooding	0.40
123: Granoso-----	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Droughty	0.16	Flooding	0.40

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
124: Granoso-----	90	Very limited Filtering capacity Droughty	1.00 0.61	Very limited Seepage Flooding	1.00 0.40
130: Cerini-----	85	Not limited		Very limited Seepage Flooding	1.00 0.40
131: Calflax-----	85	Somewhat limited Sodium content Slow water movement Salinity	0.50 0.37 0.01	Very limited Seepage Too level Sodium content Flooding	1.00 0.50 0.50 0.40
132: Cerini-----	85	Not limited		Very limited Seepage Flooding	1.00 0.40
133: Calflax-----	85	Somewhat limited Sodium content Slow water movement Salinity	0.50 0.37 0.01	Very limited Seepage Too level Sodium content Flooding	1.00 0.50 0.50 0.40
134: Cerini-----	85	Not limited		Very limited Seepage Flooding	1.00 0.40
140: Copus silty clay, partially drained--	85	Very limited Slow water movement Too acid Salinity	1.00 0.85 0.13	Somewhat limited Too acid Too level Flooding	0.85 0.50 0.40
141: Copus clay, partially drained--	95	Very limited Slow water movement Too acid Salinity	1.00 0.85 0.13	Somewhat limited Too acid Too level Flooding	0.85 0.50 0.40
150: Excelsior-----	85	Very limited Filtering capacity	0.99	Very limited Seepage Flooding	1.00 0.40

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
151: Excelsior, saline- sodic-----	85	Very limited Filtering capacity Salinity	0.99 0.01	Very limited Seepage Flooding	1.00 0.40
152: Excelsior-----	85	Very limited Filtering capacity	0.99	Very limited Seepage Flooding	1.00 0.40
153: Tupman-----	80	Very limited Filtering capacity Droughty	0.99 0.01	Very limited Seepage Flooding	1.00 0.40
154: Tupman-----	70	Very limited Filtering capacity Droughty	0.99 0.01	Very limited Seepage Flooding	1.00 0.40
Urban land-----	20	Not rated		Not rated	
160: Fages-----	80	Very limited Sodium content Slow water movement Salinity Droughty	1.00 1.00 1.00 0.01	Very limited Sodium content Salinity Too level Flooding	1.00 0.72 0.50 0.40
179: Padres-----	70	Not limited		Very limited Seepage	1.00
180: Garces-----	85	Very limited Sodium content Slow water movement Salinity	1.00 0.37 0.13	Very limited Sodium content Seepage Too level Flooding	1.00 1.00 0.50 0.40
190: Guijarral-----	85	Not limited		Very limited Seepage Flooding	1.00 0.40
191: Guijarral-----	85	Somewhat limited Too steep for surface application	0.08	Very limited Seepage Flooding	1.00 0.40

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
192: Guijarral-----	45	Somewhat limited Too steep for surface application	0.02	Very limited Seepage Flooding	1.00 0.40
Klipstein-----	45	Very limited Droughty	1.00	Very limited Seepage Flooding	1.00 0.40
193: Guijarral-----	85	Somewhat limited Droughty	0.11	Very limited Seepage	1.00
195: Guijarral, extremely gravelly substratum	60	Somewhat limited Too steep for surface application Droughty Too steep for sprinkler application	0.92 0.11 0.02	Very limited Seepage Too steep for surface application	1.00 0.06
Guijarral-----	30	Somewhat limited Too steep for surface application Too steep for sprinkler application	0.92 0.02	Very limited Seepage Too steep for surface application	1.00 0.06
197: Klipstein-----	60	Very limited Too steep for surface application Droughty Too steep for sprinkler application	1.00 1.00 0.40	Very limited Seepage Too steep for surface application Flooding	1.00 0.78 0.40
Guijarral-----	25	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 0.40 0.11	Very limited Seepage Too steep for surface application Flooding	1.00 0.78 0.40
200: Hesperia-----	85	Not limited		Very limited Seepage Flooding	1.00 0.40

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
201: Hesperia-----	85	Not limited		Very limited Seepage Flooding	1.00 0.40
210: Kimberlina-----	85	Not limited		Very limited Seepage Flooding	1.00 0.40
211: Kimberlina-----	80	Not limited		Very limited Seepage Flooding	1.00 0.40
212: Kimberlina, saline- sodic-----	85	Very limited Sodium content Salinity Slow water movement	1.00 0.50 0.37	Very limited Seepage Sodium content Flooding	1.00 1.00 0.40
214: Kimberlina-----	85	Not limited		Very limited Seepage Flooding	1.00 0.40
215: Kimberlina-----	85	Somewhat limited Too steep for surface application Too steep for sprinkler application	0.92 0.02	Very limited Seepage Too steep for surface application	1.00 0.06
216: Kimberlina, occasionally flooded-----	50	Somewhat limited Flooding	0.60	Very limited Flooding Seepage	1.00 1.00
Granoso, occasionally flooded-----	35	Very limited Filtering capacity Droughty Flooding	1.00 0.91 0.60	Very limited Flooding Seepage	1.00 1.00
217: Kimberlina-----	50	Not limited		Very limited Seepage Flooding	1.00 0.20
Urban land-----	35	Not rated		Not rated	

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
219: Xerorthents-----	50	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Sodium content	1.00 1.00 1.00 0.80 0.02	Very limited Depth to bedrock Too steep for surface application Seepage Sodium content	1.00 1.00 1.00 0.02
Badlands-----	35	Not rated		Not rated	
220: Lokern, drained-----	85	Very limited Slow water movement Sodium content	1.00 0.08	Somewhat limited Too level Flooding Sodium content	0.50 0.40 0.08
221: Lokern, partially drained-----	85	Very limited Slow water movement Sodium content Salinity	1.00 1.00 0.50	Very limited Sodium content Too level Flooding	1.00 0.50 0.40
230: Milagro-----	85	Very limited Filtering capacity Sodium content	0.99 0.02	Very limited Seepage Too level Flooding Sodium content	1.00 0.50 0.40 0.02
231: Milagro-----	85	Very limited Filtering capacity Sodium content	0.99 0.02	Very limited Seepage Too level Flooding Sodium content	1.00 0.50 0.40 0.02
240: Millox, partially drained-----	85	Very limited Sodium content Slow water movement Droughty	1.00 1.00 0.13	Very limited Sodium content Too level Flooding	1.00 0.50 0.40
241: Millox, partially drained, nonsaline-	85	Very limited Slow water movement	1.00	Somewhat limited Too level Flooding	0.50 0.40

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
242: Millox, partially drained-----	55	Very limited Sodium content Slow water movement Droughty	1.00 1.00 0.19	Very limited Sodium content Too level Flooding	1.00 0.50 0.40
Tennco-----	35	Very limited Salinity Sodium content	1.00 1.00	Very limited Sodium content Seepage Salinity Too level Flooding	1.00 1.00 0.82 0.50 0.40
243: Millox, partially drained-----	50	Very limited Slow water movement	1.00	Somewhat limited Too level Flooding	0.50 0.40
Zalvidea, partially drained-----	35	Somewhat limited Slow water movement Salinity	0.37 0.13	Very limited Seepage Too level Flooding	1.00 0.50 0.40
246: Whitewolf-----	85	Very limited Filtering capacity Droughty	0.99 0.24	Very limited Seepage Flooding	1.00 0.40
250: Oldriver-----	85	Very limited Slow water movement Sodium content	1.00 0.08	Very limited Seepage Too level Flooding Sodium content	1.00 0.50 0.40 0.08
251: Oldriver, partially drained, sodic-----	85	Very limited Sodium content Slow water movement	1.00 1.00	Very limited Seepage Sodium content Too level Flooding	1.00 1.00 0.50 0.40
260: Panoche-----	85	Not limited		Very limited Seepage Too level Flooding	1.00 0.50 0.40
270: Pits-----	50	Not rated		Not rated	
Dumps-----	50	Not rated		Not rated	

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
280: Premier-----	85	Not limited		Very limited Seepage Flooding	1.00 0.40
281: Premier-----	85	Somewhat limited Too steep for surface application	0.08	Very limited Seepage Flooding	1.00 0.20
290: Riverwash-----	85	Not rated		Not rated	
300: Tennco-----	85	Very limited Salinity Sodium content	1.00 1.00	Very limited Sodium content Seepage Salinity Too level Flooding	1.00 1.00 0.82 0.50 0.40
310: Vineland, drained---	85	Very limited Filtering capacity Droughty	1.00 0.02	Very limited Seepage Too level Flooding	1.00 0.50 0.40
312: Vineland, drained---	50	Very limited Filtering capacity Droughty	1.00 0.02	Very limited Seepage Too level Flooding	1.00 0.50 0.40
Bakersfield, drained	40	Very limited Filtering capacity Too acid Sodium content	1.00 0.07 0.02	Very limited Seepage Too level Flooding Too acid Sodium content	1.00 0.50 0.40 0.07 0.02
320: Wasco-----	85	Not limited		Very limited Seepage Flooding	1.00 0.40
330: Cuyama-----	85	Somewhat limited Sodium content	0.68	Very limited Seepage Sodium content Flooding	1.00 0.68 0.40

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
331: Cuyama-----	85	Very limited Too steep for surface application Sodium content Too steep for sprinkler application	1.00 0.68 0.40	Very limited Seepage Too steep for surface application Sodium content	1.00 0.78 0.68
332: Cuyama-----	85	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.68	Very limited Too steep for surface application Seepage Sodium content	1.00 1.00 0.68
340: Weedpatch-----	85	Somewhat limited Slow water movement Sodium content Salinity	0.37 0.32 0.15	Somewhat limited Seepage Too level Flooding Sodium content	0.62 0.50 0.40 0.32
350: Posochanet, saline- sodic-----	85	Very limited Sodium content Salinity Slow water movement	1.00 1.00 1.00	Very limited Sodium content Seepage Too level Flooding Salinity	1.00 1.00 0.50 0.40 0.13
351: Posochanet, saline- sodic-----	75	Very limited Sodium content Salinity Slow water movement	1.00 1.00 1.00	Very limited Sodium content Seepage Flooding Salinity	1.00 1.00 0.40 0.13
352: Posochanet-----	70	Very limited Sodium content Salinity Slow water movement	1.00 1.00 1.00	Very limited Sodium content Seepage Too level Flooding Salinity	1.00 1.00 0.50 0.40 0.13
Posochanet, partially reclaimed	20	Very limited Slow water movement Salinity Sodium content	1.00 1.00 0.50	Very limited Seepage Too level Sodium content Flooding Salinity	1.00 0.50 0.50 0.40 0.13

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
360: Wheelridge-----	85	Very limited Filtering capacity Droughty	1.00 0.87	Very limited Seepage Flooding	1.00 0.40
370: Whitewolf-----	85	Very limited Filtering capacity Droughty	0.99 0.24	Very limited Seepage Flooding	1.00 0.40
371: Whitewolf-----	85	Very limited Filtering capacity Droughty	0.99 0.24	Very limited Seepage Flooding	1.00 0.40
380: Zalvidea, partially drained-----	85	Somewhat limited Slow water movement Salinity	0.37 0.13	Very limited Seepage Flooding	1.00 0.40
381: Zalvidea, partially drained-----	85	Somewhat limited Slow water movement Salinity	0.37 0.13	Very limited Seepage Too level Flooding	1.00 0.50 0.40
389: Xerofluvents-----	30	Very limited Filtering capacity Droughty Flooding Too steep for surface application	0.99 0.99 0.60 0.32	Very limited Flooding Seepage	1.00 1.00
Haploxerepts-----	30	Somewhat limited Too steep for surface application Droughty	0.32 0.01	Very limited Seepage Flooding	1.00 0.40
Riverwash-----	15	Not rated		Not rated	
390: Pleito-----	85	Not limited		Very limited Seepage Flooding	1.00 0.40
391: Pleito-----	80	Not limited		Very limited Seepage Flooding	1.00 0.40

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
392: Pleito-----	85	Somewhat limited Too steep for surface application Too steep for sprinkler application	0.92 0.02	Very limited Seepage Too steep for surface application	1.00 0.06
393: Pleito-----	85	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Seepage Too steep for surface application	1.00 1.00
394: Pleito-----	45	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
Xeric Torriorthents, very gravelly-----	40	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Large stones on the surface	1.00 1.00 1.00 0.80 0.18	Very limited Seepage Depth to bedrock Too steep for surface application Stone content Sodium content	1.00 1.00 1.00 0.40 0.08
395: Pleito-----	50	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
Emidio-----	20	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Too acid	1.00 1.00 0.37 0.31	Very limited Too steep for surface application Seepage Too acid	1.00 1.00 0.31

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
395: Loslobos-----	15	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
396: Pleito-----	60	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
Loslobos-----	25	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
398: Calcic Haploxerepts-	30	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 0.37	Very limited Too steep for surface application Seepage	1.00 0.62
Calcic Pachic Argixerolls, fine---	25	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 1.00	Very limited Too steep for surface application Seepage	1.00 0.62
Xerorthents, shallow	20	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Sodium content	1.00 1.00 1.00 1.00 0.18	Very limited Depth to bedrock Too steep for surface application Seepage Sodium content	1.00 1.00 1.00 0.18

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
400: Loslobos-----	35	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
Xeric Torriorthents, very gravelly-----	25	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Large stones on the surface	1.00 1.00 1.00 0.80 0.18	Very limited Seepage Depth to bedrock Too steep for surface application Stone content Sodium content	1.00 1.00 1.00 0.40 0.08
Badlands-----	20	Not rated		Not rated	
401: Loslobos-----	85	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
402: Loslobos-----	40	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Seepage Too steep for surface application	1.00 1.00
Walong-----	30	Very limited Droughty Too steep for surface application Large stones on the surface Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00 1.00 0.54	Very limited Seepage Depth to bedrock Too steep for surface application Stone content	1.00 1.00 1.00 1.00

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
403: Loslobos-----	45	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
Calleguas-----	35	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty Slow water movement	1.00 1.00 1.00 1.00 0.37	Very limited Depth to bedrock Too steep for surface application Seepage Sodium content	1.00 1.00 0.62 0.02
404: Loslobos, moist----	85	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
430: Littlesignal-----	45	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 0.18
Cochora-----	40	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00 1.00
431: Littlesignal-----	50	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 0.18

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
431: Cochora-----	35	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00 1.00
432: Littlesignal-----	45	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 0.26
Badlands-----	25	Not rated		Not rated	
Cochora-----	20	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00 1.00
440: Elkhills-----	50	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
Pyxo-----	35	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty Sodium content	1.00 1.00 0.46 0.27 0.08	Very limited Too steep for surface application Seepage Depth to bedrock Sodium content	1.00 1.00 1.00 0.08

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
441: Sodic Haplocambids, thick-----	60	Very limited Too steep for surface application Sodium content Too steep for sprinkler application Slow water movement	1.00 1.00 1.00 1.00	Very limited Sodium content Seepage Too steep for surface application	1.00 1.00 1.00
442: Elkhills-----	80	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 0.40 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 0.78 0.02
443: Elkhills-----	40	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
Badlands-----	40	Not rated		Not rated	
444: Elkhills-----	90	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
445: Sodic Haplocambids, thick-----	45	Very limited Too steep for surface application Too steep for sprinkler application Sodium content Slow water movement	1.00 1.00 1.00 1.00	Very limited Too steep for surface application Sodium content Seepage	1.00 1.00 1.00

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Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
445: Elkhills-----	40	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
451: Beam-----	35	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty Sodium content	1.00 1.00 1.00 1.00 1.00 0.08	Very limited Seepage Depth to bedrock Too steep for surface application Sodium content	1.00 1.00 1.00 0.08
Panoza-----	30	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 0.90 0.45	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00
Hillbrick-----	15	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 1.00 1.00 0.99	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 1.00
460: Geghus-----	50	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Seepage Too steep for surface application	1.00 1.00
Tecuya-----	30	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 0.78 0.01	Very limited Too steep for surface application Seepage Cobble content	1.00 1.00 0.94

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Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
461: Geghus-----	50	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
Tecuya-----	35	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 0.01	Very limited Too steep for surface application Seepage Cobble content	1.00 1.00 0.94
462: Geghus-----	55	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 0.96
Xeric Torriorthents, very gravelly-----	30	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Large stones on the surface	1.00 1.00 1.00 0.80 0.18	Very limited Seepage Depth to bedrock Too steep for surface application Stone content Sodium content	1.00 1.00 1.00 0.40 0.08
470: Pyxo-----	55	Very limited Too steep for surface application Too steep for sprinkler application Droughty Sodium content Depth to bedrock	1.00 1.00 0.27 0.08 0.01	Very limited Too steep for surface application Seepage Depth to bedrock Sodium content	1.00 1.00 1.00 0.08

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Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
470: Cochora-----	30	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00 1.00
471: Pyxo-----	40	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty Sodium content	1.00 1.00 0.65 0.40 0.08	Very limited Too steep for surface application Seepage Depth to bedrock Sodium content	1.00 1.00 1.00 0.08
Cochora-----	25	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00 1.00
Badlands-----	15	Not rated		Not rated	
472: Pyxo-----	30	Very limited Too steep for surface application Depth to bedrock Too steep for sprinkler application Droughty Sodium content	1.00 0.46 0.40 0.27 0.08	Very limited Seepage Depth to bedrock Too steep for surface application Sodium content	1.00 1.00 0.78 0.08
Kimberlina-----	30	Very limited Too steep for surface application Too steep for sprinkler application	1.00 0.40	Very limited Seepage Too steep for surface application	1.00 0.78

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
472: Cochora-----	25	Very limited		Very limited	
		Droughty	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	0.78
		Too steep for sprinkler application	0.40		
480: Pyxo, dry-----	45	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Depth to bedrock	0.46	Depth to bedrock	1.00
		Droughty	0.27	Sodium content	0.08
		Sodium content	0.08		
Elkhills-----	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Sodium content	0.02	Sodium content	0.02
490: Padres-----	65	Somewhat limited		Very limited	
		Too steep for surface application	0.68	Seepage	1.00
500: Bitcreek-----	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Sodium content	0.02	Sodium content	0.02
510: Beam-----	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Droughty	1.00	Sodium content	0.08
		Sodium content	0.08		

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
510:					
Panoza-----	30	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 0.90 0.45	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00
Hillbrick-----	15	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 1.00 0.99	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 1.00
511:					
Beam-----	35	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty Sodium content	1.00 1.00 1.00 1.00 0.08	Very limited Seepage Depth to bedrock Too steep for surface application Sodium content	1.00 1.00 1.00 0.08
Panoza-----	30	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 0.90 0.45	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00
Hillbrick-----	15	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 1.00 0.99	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 1.00

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
515: Zonap-----	50	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 0.80 0.61	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00 1.00
Badlands-----	20	Not rated		Not rated	
Beam-----	15	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Sodium content	1.00 1.00 1.00 1.00 0.08	Very limited Seepage Depth to bedrock Too steep for surface application Sodium content	1.00 1.00 1.00 0.08
516: Zonap-----	45	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty Sodium content	1.00 1.00 0.80 0.61 0.02	Very limited Too steep for surface application Seepage Depth to bedrock Sodium content	1.00 1.00 1.00 1.00 0.02
Beam-----	40	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Sodium content	1.00 1.00 1.00 1.00 0.08	Very limited Seepage Depth to bedrock Too steep for surface application Sodium content	1.00 1.00 1.00 0.08
530: Tehachapi-----	80	Somewhat limited Too steep for surface application Too acid	0.08 0.03	Very limited Seepage Stone content Too acid	1.00 0.42 0.03

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
531: Tehachapi-----	85	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.03	Very limited Seepage Too steep for surface application Stone content Too acid	1.00 1.00 0.42 0.03
540: Xeric Torriorthents-	50	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 0.99	Very limited Seepage Too steep for surface application Depth to bedrock	1.00 1.00 0.94
Badlands-----	25	Not rated		Not rated	
550: Elkhills-----	45	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
Welport-----	45	Very limited Droughty Depth to cemented pan Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 1.00 0.78 0.02	Very limited Seepage Depth to cemented pan Too steep for surface application Sodium content	1.00 1.00 1.00 0.02
560: Laval-----	44	Very limited Flooding Droughty Filtering capacity	1.00 1.00 0.99	Very limited Flooding Seepage	1.00 1.00
Pleitito-----	44	Very limited Filtering capacity Flooding	1.00 1.00	Very limited Flooding Seepage	1.00 1.00

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
561: Laval-----	45	Very limited Flooding Droughty Filtering capacity Too steep for surface application	1.00 1.00 0.99 0.32	Very limited Flooding Seepage	1.00 1.00
Pleitito-----	45	Very limited Filtering capacity Flooding Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00 0.40	Very limited Flooding Seepage Too steep for surface application	1.00 1.00 0.78
570: Hillbrick-----	65	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 1.00 1.00 0.99	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
571: Hillbrick-----	65	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 1.00 1.00 0.99	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
580: Reward-----	45	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
580: Hillbrick-----	45	Very limited Droughty	1.00	Very limited Depth to bedrock	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Depth to bedrock	1.00		
581: Reward-----	85	Very limited Too steep for surface application	1.00	Very limited Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
583: Bellyspring-----	35	Very limited Too steep for surface application	1.00	Very limited Seepage	1.00
		Too steep for sprinkler application	0.78	Depth to bedrock	1.00
		Depth to bedrock	0.01	Too steep for surface application	1.00
		Droughty	0.01		
Panoza-----	25	Very limited Too steep for surface application	1.00	Very limited Seepage	1.00
		Depth to bedrock	0.90	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
		Droughty	0.45		
584: Bellyspring-----	35	Very limited Too steep for surface application	1.00	Very limited Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Depth to bedrock	0.01	Depth to bedrock	1.00
		Droughty	0.01		

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
584: Panoza-----	30	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 0.90 0.45	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00 1.00
585: Bellyspring-----	35	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 0.01 0.01	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00 1.00
Panoza-----	30	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 0.90 0.45	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00 1.00
586: Panoza-----	40	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 0.90 0.45	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00 1.00
Beam-----	30	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty Sodium content	1.00 1.00 1.00 1.00 1.00 0.08	Very limited Seepage Depth to bedrock Too steep for surface application Sodium content	1.00 1.00 1.00 1.00 0.08

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
587: Panoza-----	40	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 0.90 0.45	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00 1.00
Beam-----	30	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty Sodium content	1.00 1.00 1.00 1.00 1.00 0.08	Very limited Seepage Depth to bedrock Too steep for surface application Sodium content	1.00 1.00 1.00 0.08
588: Panoza-----	40	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty	1.00 1.00 0.90 0.45	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00 1.00
Beam-----	30	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty Sodium content	1.00 1.00 1.00 1.00 1.00 0.08	Very limited Seepage Depth to bedrock Too steep for surface application Sodium content	1.00 1.00 1.00 0.08
590: Gorman-----	35	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Too acid	1.00 1.00 0.37 0.03	Very limited Too steep for surface application Seepage Too acid	1.00 1.00 0.03

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
590: Typic Xerorthents, mesic-----	30	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Sodium content	1.00 1.00 0.37 0.16 0.08	Very limited Too steep for surface application Seepage Depth to bedrock Sodium content	1.00 1.00 1.00 0.08
Xerorthents, shallow	20	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Sodium content	1.00 1.00 1.00 1.00 0.18	Very limited Depth to bedrock Too steep for surface application Seepage Sodium content	1.00 1.00 1.00 0.18
591: Geghus-----	40	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
Selby-----	40	Very limited Droughty Too steep for surface application Too steep for sprinkler application Cobble content Depth to bedrock	1.00 1.00 1.00 1.00 0.84	Very limited Too steep for surface application Seepage Depth to bedrock Cobble content	1.00 1.00 1.00 0.81
600: Positas-----	45	Very limited Slow water movement Too steep for surface application	1.00 0.68	Very limited Seepage	1.00
Bitcreek-----	35	Very limited Slow water movement Too steep for surface application Sodium content	1.00 0.68 0.02	Very limited Seepage Sodium content	1.00 0.02

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
610: Balcom-----	55	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 0.20	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	
620: Typic Xerorthents, mesic-----	40	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock Sodium content	1.00 1.00 0.37 0.16 0.08	Very limited Too steep for surface application Seepage Depth to bedrock Sodium content	1.00 1.00 1.00 0.08
Haploxerepts-----	40	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 0.01	Very limited Too steep for surface application Seepage	1.00 1.00
Xerorthents, sandy--	18	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity Droughty	1.00 1.00 0.99 0.99	Very limited Seepage Too steep for surface application Depth to bedrock	1.00 1.00 0.99
640: Bitcreek-----	40	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Sodium content	1.00 1.00 1.00 0.02	Very limited Too steep for surface application Seepage Sodium content	1.00 1.00 0.02

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
640: Dibble-----	30	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Droughty Depth to bedrock	1.00 1.00 1.00 1.00 0.13 0.01	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00
Eaglerest-----	15	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Sodium content	1.00 1.00 1.00 1.00 0.02	Very limited Depth to bedrock Too steep for surface application Seepage Sodium content	1.00 1.00 1.00 0.02
650: Lithic Argixerolls--	50	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Stone content	1.00 1.00 1.00 0.93
Lithic Xerorthents, mesic-----	25	Very limited Droughty Depth to bedrock Large stones on the surface Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00 1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application Stone content	1.00 1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
660: Elkhills-----	70	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
660: Legray-----	20	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity Droughty Sodium content	1.00 1.00 0.99 0.28 0.02	Very limited Seepage Too steep for surface application Cobble content Sodium content	1.00 1.00 0.21 0.02
661: Elkhills-----	40	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
Legray-----	40	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity Droughty Sodium content	1.00 1.00 0.99 0.28 0.02	Very limited Seepage Too steep for surface application Cobble content Sodium content	1.00 1.00 0.21 0.02
670: Harrisranch-----	60	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	
680: Milham-----	90	Very limited Filtering capacity	0.99	Very limited Seepage	1.00

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
690: Dibble-----	45	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Droughty Depth to bedrock	1.00 1.00 1.00 0.13 0.01	Very limited Too steep for surface application Seepage Depth to bedrock	1.00 1.00 1.00
Geghus-----	40	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
700: Xerolls, loamy- skeletal-----	55	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 0.95	Very limited Too steep for surface application Seepage Cobble content	1.00 1.00 0.99
Los Gatos-----	30	Very limited Too steep for surface application Too steep for sprinkler application Droughty Too acid Depth to bedrock	1.00 1.00 1.00 0.84 0.77 0.54	Very limited Seepage Too steep for surface application Depth to bedrock Too acid Sodium content	1.00 1.00 1.00 0.77 0.02
720: Friant-----	50	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00 1.00

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
720: Geghus-----	20	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
Lithic Xerorthents, thermic-----	20	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 1.00
724: Elkhills-----	90	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
725: Sodic Haplocambids, thick-----	85	Very limited Too steep for surface application Sodium content Slow water movement Too steep for sprinkler application	1.00 1.00 1.00 1.00 0.78	Very limited Sodium content Seepage Too steep for surface application	1.00 1.00 1.00
726: Sodic Haplocambids, thick-----	90	Very limited Too steep for surface application Too steep for sprinkler application Sodium content Slow water movement	1.00 1.00 1.00 1.00	Very limited Too steep for surface application Sodium content Seepage	1.00 1.00 1.00

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
727: Sodic Haplocambids, thick-----	90	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Sodium content	1.00
		Sodium content	1.00	Seepage	1.00
		Slow water movement	1.00		
728: Torriorthents, very thin-----	85	Very limited		Very limited	
		Salinity	1.00	Sodium content	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Sodium content	1.00	Salinity	0.97
		Droughty	0.77	Seepage	0.62
729: Sodic Haplocambids, thick-----	40	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Sodium content	1.00
		Sodium content	1.00	Seepage	1.00
		Slow water movement	1.00		
Torriorthents, thin-	30	Very limited		Very limited	
		Too steep for surface application	1.00	Sodium content	1.00
		Too steep for sprinkler application	1.00	Too steep for surface application	1.00
		Sodium content	1.00	Seepage	1.00
Torriorthents, very thin, eroded-----	15	Very limited		Very limited	
		Salinity	1.00	Sodium content	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Sodium content	1.00	Salinity	1.00
		Droughty	0.77	Seepage	0.62

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Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
730: Haplocambids, thick-	50	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 0.78 0.08	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.08
Elkhills-----	30	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 0.78 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
731: Haplocambids, thick-	45	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.82	Very limited Too steep for surface application Seepage Sodium content	1.00 1.00 0.82
Elkhills-----	40	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
732: Elkhills-----	50	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
Haplocambids, thick-	40	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.82	Very limited Too steep for surface application Seepage Sodium content	1.00 1.00 0.82

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Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
733: Sodic Haplocambids, thick-----	50	Very limited Too steep for surface application Too steep for sprinkler application Sodium content Slow water movement	1.00 1.00 1.00 1.00	Very limited Too steep for surface application Sodium content Seepage	1.00 1.00 1.00
Torriorthents, thin-	35	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 1.00 1.00	Very limited Sodium content Too steep for surface application Seepage	1.00 1.00 1.00
734: Sodic Haplocambids, thick-----	40	Very limited Too steep for surface application Too steep for sprinkler application Sodium content Slow water movement	1.00 1.00 1.00 1.00	Very limited Too steep for surface application Sodium content Seepage	1.00 1.00 1.00
Torriorthents, very thin, eroded-----	25	Very limited Salinity Too steep for surface application Too steep for sprinkler application Sodium content Droughty	1.00 1.00 1.00 1.00 0.77	Very limited Sodium content Too steep for surface application Depth to bedrock Salinity Seepage	1.00 1.00 1.00 1.00 0.62
Elkhills-----	24	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
735: Sodic Haplocambids, thick-----	40	Very limited Too steep for surface application Too steep for sprinkler application Sodium content Slow water movement	1.00 1.00 1.00 1.00	Very limited Too steep for surface application Sodium content Seepage	1.00 1.00 1.00
Elkhills-----	25	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
Torriorthents, thin-	20	Very limited Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 1.00	Very limited Sodium content Too steep for surface application Seepage	1.00 1.00 1.00
750: Ballinger-----	85	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Salinity Droughty	1.00 1.00 1.00 1.00 1.00 0.84	Very limited Too steep for surface application Depth to bedrock Salinity Sodium content	1.00 1.00 0.13 0.08
760: Ballinger-----	85	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Salinity Droughty	1.00 1.00 1.00 1.00 1.00 0.84	Very limited Too steep for surface application Depth to bedrock Salinity Sodium content	1.00 1.00 0.13 0.08

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
780: Stutzville-----	85	Very limited Salinity Slow water movement Sodium content Flooding	1.00 1.00 0.99 0.60	Very limited Flooding Sodium content Seepage Salinity	1.00 0.99 0.62 0.50
850: Xerofluvents-----	85	Very limited Flooding Filtering capacity Droughty	1.00 0.99 0.99	Very limited Flooding Seepage	1.00 1.00
860: Hawk-----	90	Not rated		Very limited Seepage Too steep for surface application Too acid Flooding	1.00 1.00 0.77 0.40
870: Frazier-----	80	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 0.95	Very limited Seepage Too steep for surface application Depth to bedrock	1.00 1.00 1.00
880: Chuchupate-----	90	Not rated		Very limited Seepage Too steep for surface application Depth to bedrock Too acid	1.00 1.00 1.00 0.21
890: Gorman-----	90	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Too acid	1.00 1.00 0.37 0.03	Very limited Too steep for surface application Seepage Too acid	1.00 1.00 0.03

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
919: Zonap-----	40	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty Sodium content	1.00 1.00 0.80 0.61 0.02	Very limited Too steep for surface application Seepage Depth to bedrock Sodium content	1.00 1.00 1.00 0.02
Harrisranch-----	30	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
Beam-----	15	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 1.00
930: Bitcreek-----	40	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Sodium content	1.00 1.00 1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
Shimmon-----	25	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty Slow water movement	1.00 1.00 0.99 0.98 0.37	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00 1.00

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
930: Balhud-----	15	Very limited		Very limited	
		Droughty	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
		Slow water movement	0.37		
932: Bitcreek-----	40	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Seepage	1.00
		Slow water movement	1.00	Sodium content	0.02
		Sodium content	0.02		
Shimmon-----	25	Very limited		Very limited	
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Depth to bedrock	0.99	Seepage	1.00
		Droughty	0.98		
		Slow water movement	0.37		
Balhud-----	20	Very limited		Very limited	
		Droughty	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface application	1.00
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00		
		Slow water movement	0.37		
940: Bitcreek-----	90	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	0.32	Sodium content	0.02
		Sodium content	0.02		

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
950: Pleito-----	40	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Too steep for surface application Seepage	1.00 1.00
Ballinger-----	25	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Salinity Droughty	1.00 1.00 1.00 1.00 0.49	Very limited Too steep for surface application Depth to bedrock Salinity Sodium content	1.00 1.00 0.13 0.08
Balhud-----	20	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 1.00 1.00 0.37	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00 1.00
951: Bitcreek-----	40	Very limited Too steep for surface application Slow water movement Too steep for sprinkler application Sodium content	1.00 1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
Balhud-----	30	Very limited Droughty Depth to bedrock Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 1.00 1.00 0.37	Very limited Depth to bedrock Seepage Too steep for surface application	1.00 1.00 1.00

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
951: Ballinger-----	15	Very limited Slow water movement Too steep for surface application Salinity Too steep for sprinkler application Droughty	1.00 1.00 1.00 1.00 0.49	Very limited Depth to bedrock Too steep for surface application Salinity Sodium content	1.00 1.00 0.13 0.08
954: Typic Haploxeralfs, fine-----	50	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Droughty Depth to bedrock	1.00 1.00 1.00 1.00 1.00 0.90	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00 0.62
Haploxerolls, coarse-loamy-----	30	Very limited Too steep for surface application Too steep for sprinkler application Droughty Depth to bedrock	1.00 1.00 1.00 1.00 0.16	Very limited Too steep for surface application Seepage Depth to bedrock Cobble content Stone content	1.00 1.00 1.00 0.99 0.62
955: Calcic Haploxerepts-	30	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 0.37	Very limited Too steep for surface application Seepage	1.00 0.62
Xerorthents, shallow	25	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00 1.00
Badlands-----	20	Not rated		Not rated	

Soil Survey of Kern County, California, Southwest Part

Table 15.--Agricultural Disposal of Wastewater by Irrigation and Overland Flow
--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
970:					
Harrisranch-----	50	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00	Very limited Seepage Too steep for surface application	1.00 1.00
Bitcreek-----	35	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Sodium content	1.00 1.00 1.00 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
980:					
Area not surveyed, access denied-----	100	Not rated		Not rated	
W:					
Water-----	100	Not rated		Not rated	

Table 16a.--Water Management (Part 1)

[The information in this table is based on interpretations developed by the Pacific Southwest MLRA Office. The information indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The rating is based on the limitation with the highest value. Only the three highest value limitations are listed. There may be more limitations. Fine-earth fractions and coarse fragments are reported on the basis of weight. An explanation of the rating criteria and of the abbreviations used in describing the limitations is given at the end of the table]

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
101: Bakersfield, drained-----	80	No limitations		Limitations Permeability >2"/hr (seepage)	1.00
102: Bakersfield, partially drained----	85	Limitations Very high piping potential EC 8-16 dS/m	1.00 0.04	Limitations Permeability >2"/hr (seepage)	1.00
110: Buttonwillow, partially drained---	75	No limitations Low piping potential	0.02	Limitations Permeability >2"/hr (seepage)	1.00
120: Granoso-----	85	Limitations Seepage	1.00	Limitations Permeability >2"/hr (seepage)	1.00
121: Granoso-----	85	Limitations Seepage	1.00	Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.08
122: Granoso, loamy substratum-----	85	No limitations		Limitations Permeability >2"/hr (seepage)	1.00
123: Granoso-----	85	Limitations Seepage	1.00	Limitations Permeability >2"/hr (seepage)	1.00
124: Granoso-----	90	Limitations Seepage	1.00	Limitations Permeability >2"/hr (seepage)	1.00
130: Cerini-----	85	Limitations High piping potential	0.99	Limitations Permeability >2"/hr (seepage)	1.00

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
131: Calflax-----	85	Limitations Very high piping potential	1.00	Limitations Permeability .6-2"/hr (some seepage)	0.50
132: Cerini-----	85	Limitations High piping potential	0.97	Limitations Permeability >2"/hr (seepage)	1.00
133: Calflax-----	85	Limitations Very high piping potential Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Permeability >2"/hr (seepage)	1.00
134: Cerini-----	85	Limitations High piping potential	0.97	Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.01
140: Copus silty clay, partially drained-----	85	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	No limitations	
141: Copus clay, partially drained----	95	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI >=40%	1.00 1.00	No limitations	
150: Excelsior-----	85	Limitations Very high piping potential	1.00	Limitations Permeability >2"/hr (seepage)	1.00
151: Excelsior, saline-sodic-----	85	Limitations Very high piping potential EC 8-16 dS/m	1.00 0.03	Limitations Permeability >2"/hr (seepage)	1.00
152: Excelsior-----	85	Limitations Very high piping potential	1.00	Limitations Permeability >2"/hr (seepage)	1.00
153: Tupman-----	80	No limitations		Limitations Permeability >2"/hr (seepage)	1.00

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
154: Tupman-----	70	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.01
Urban land-----	20	Not rated		Not rated	
160: Fages-----	80	Limitations Shrink-swell (LEP >6) EC >16 dS/m MH or CH Unified and PI <40%	1.00 1.00 0.50	Limitations Permeability .6-2"/hr (some seepage)	0.50
179: Padres-----	70	No limitations		Limitations Permeability >2"/hr (seepage)	1.00
180: Garces-----	85	Limitations Very high piping potential EC 8-16 dS/m	1.00 0.50	Limitations Permeability >2"/hr (seepage)	1.00
190: Guijarral-----	85	No limitations		Limitations Permeability >2"/hr (seepage)	1.00
191: Guijarral-----	85	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.08
192: Guijarral-----	45	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.02
Klipstein-----	45	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.01
193: Guijarral-----	85	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.01

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
195: Guijarral, extremely gravelly substratum-----	60	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.91
Guijarral-----	30	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.91
197: Klipstein-----	60	No limitations		Limitations Permeability >2"/hr (seepage) Slopes >7%	1.00 1.00
Guijarral-----	25	No limitations		Limitations Permeability >2"/hr (seepage) Slopes >7%	1.00 1.00
200: Hesperia-----	85	No limitations		Limitations Permeability >2"/hr (seepage)	1.00
201: Hesperia-----	85	No limitations		Limitations Permeability >2"/hr (seepage)	1.00
210: Kimberlina-----	85	No limitations		Limitations Permeability >2"/hr (seepage)	1.00
211: Kimberlina-----	80	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.01
212: Kimberlina, saline-sodic-----	85	Limitations Very high piping potential	1.00	Limitations Permeability .6-2"/hr (some seepage)	0.50
214: Kimberlina-----	85	No limitations		Limitations Permeability >2"/hr (seepage)	1.00

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
215: Kimberlina-----	85	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.91
216: Kimberlina, occasionally flooded---	50	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.01
Granso, occasionally flooded-----	35	Limitations Seepage	1.00	Limitations Permeability >2"/hr (seepage)	1.00
217: Kimberlina-----	50	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.01
Urban land-----	35	Not rated		Not rated	
219: Xerorthents-----	50	Limitations Thin layer	0.95	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock from 20-60"	1.00 1.00 0.95
Badlands-----	35	Not rated		Not rated	
220: Lokern, drained-----	85	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	No limitations	
221: Lokern, partially drained-----	85	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	No limitations	
230: Milagro-----	85	No limitations		Limitations Permeability >2"/hr (seepage)	1.00
231: Milagro-----	85	No limitations		Limitations Permeability >2"/hr (seepage)	1.00

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
240: Millox, partially drained-----	85	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40% EC 8-16 dS/m	1.00 0.50 0.12	Limitations Permeability .6-2"/hr (some seepage)	0.50
241: Millox, partially drained, nonsaline-----	85	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	Limitations Permeability .6-2"/hr (some seepage)	0.50
242: Millox, partially drained-----	55	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40% EC 8-16 dS/m	1.00 0.50 0.12	Limitations Permeability .6-2"/hr (some seepage)	0.50
Tennco-----	35	Limitations Very high piping potential EC >16 dS/m	1.00 1.00	Limitations Permeability .6-2"/hr (some seepage)	0.50
243: Millox, partially drained-----	50	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	Limitations Permeability .6-2"/hr (some seepage)	0.50
Zalvidea, partially drained-----	35	Limitations Very high piping potential	1.00	Limitations Gypsum >15% to 80" depth Permeability >2"/hr (seepage)	1.00 1.00
246: Whitewolf-----	85	Limitations Possible seepage	0.50	Limitations Permeability >2"/hr (seepage)	1.00
250: Oldriver-----	85	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40% High piping potential	1.00 0.50 0.24	Limitations Permeability >2"/hr (seepage)	1.00
251: Oldriver, partially drained, sodic	85	Limitations Shrink-swell (LEP >6) Very high piping potential MH or CH Unified and PI <40%	1.00 1.00 0.50	Limitations Permeability >2"/hr (seepage)	1.00

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
260: Panoche-----	85	Limitations High piping potential	0.52	Limitations Permeability .6-2"/hr (some seepage)	0.50
270: Pits-----	50	Not rated		Not rated	
Dumps-----	50	Not rated		Not rated	
280: Premier-----	85	No limitations		Limitations Permeability >2"/hr (seepage)	1.00
281: Premier-----	85	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.08
290: Riverwash-----	85	Not rated		Not rated	
300: Tennco-----	85	Limitations Very high piping potential EC >16 dS/m	1.00 1.00	Limitations Permeability .6-2"/hr (some seepage)	0.50
310: Vineland, drained-----	85	Limitations Seepage	1.00	Limitations Permeability >2"/hr (seepage)	1.00
312: Vineland, drained-----	50	Limitations Seepage	1.00	Limitations Permeability >2"/hr (seepage)	1.00
Bakersfield, drained-----	40	No limitations		Limitations Permeability >2"/hr (seepage)	1.00
320: Wasco-----	85	No limitations		Limitations Permeability >2"/hr (seepage)	1.00
330: Cuyama-----	85	Limitations Seepage High piping potential	1.00 0.60	Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.01

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
331: Cuyama-----	85	Limitations Seepage High piping potential	 1.00 0.60	Limitations Permeability >2"/hr (seepage) Slopes >7%	 1.00 1.00
332: Cuyama-----	85	Limitations Seepage High piping potential	 1.00 0.60	Limitations Slopes >7% Permeability >2"/hr (seepage)	 1.00 1.00
340: Weedpatch-----	85	Limitations Shrink-swell (LEP 3-6) High piping potential	 0.78 0.22	No limitations	
350: Posochanet, saline-sodic-----	85	Limitations EC >16 dS/m Very high piping potential Shrink-swell (LEP 3-6)	 1.00 1.00 0.78	Limitations Permeability .6-2"/hr (some seepage)	 0.50
351: Posochanet, saline-sodic-----	75	Limitations EC >16 dS/m Very high piping potential Shrink-swell (LEP 3-6)	 1.00 1.00 0.78	Limitations Permeability .6-2"/hr (some seepage)	 0.50
352: Posochanet-----	70	Limitations EC >16 dS/m Very high piping potential Shrink-swell (LEP 3-6)	 1.00 1.00 0.78	Limitations Permeability .6-2"/hr (some seepage)	 0.50
Posochanet, partially reclaimed---	20	Limitations Shrink-swell (LEP 3-6) MH or CH Unified and PI <40% High piping potential	 0.78 0.50 0.40	Limitations Permeability .6-2"/hr (some seepage)	 0.50
360: Wheelridge-----	85	Limitations Possible seepage	 0.50	Limitations Permeability >2"/hr (seepage)	 1.00
370: Whitewolf-----	85	Limitations Possible seepage	 0.50	Limitations Permeability >2"/hr (seepage)	 1.00

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
371: Whitewolf-----	85	Limitations Possible seepage	0.50	Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.01
380: Zalvidea, partially drained-----	85	Limitations Very high piping potential	1.00	Limitations Gypsum >15% to 80" depth Permeability >2"/hr (seepage)	1.00 1.00
381: Zalvidea, partially drained-----	85	Limitations Very high piping potential	1.00	Limitations Gypsum >15% to 80" depth Permeability >2"/hr (seepage)	1.00 1.00
389: Xerofluvents-----	30	Limitations Seepage	1.00	Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.31
Haploxerepts-----	30	No limitations		Limitations Permeability .6-2"/hr (some seepage) Slopes 2-7%	0.50 0.31
Riverwash-----	15	Not rated		Not rated	
390: Pleito-----	85	No limitations		Limitations Permeability .6-2"/hr (some seepage)	0.50
391: Pleito-----	80	No limitations		Limitations Permeability .6-2"/hr (some seepage) Slopes 2-7%	0.50 0.01
392: Pleito-----	85	No limitations		Limitations Slopes 2-7% Permeability .6-2"/hr (some seepage)	0.91 0.50
393: Pleito-----	85	No limitations		Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
394: Pleito-----	45	No limitations		Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Xeric Torriorthents, very gravelly	40	Limitations Thin layer Fragments (>3") 15-35% Low piping potential	0.95 0.76 0.02	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock from 20-60"	1.00 1.00 0.95
395: Pleito-----	50	No limitations		Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Emidio-----	20	Limitations Very high piping potential Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >7% Gypsum >15% to 80" depth Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Loslobos-----	15	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
396: Pleito-----	60	No limitations		Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Loslobos-----	25	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
398: Calcic Haploxerepts-----	30	Limitations Shrink-swell (LEP 3-6) Low piping potential	0.78 0.05	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Calcic Pachic Argixerolls, fine----	25	Limitations Shrink-swell (LEP >6)	1.00	Limitations Slopes >7%	1.00
Xerorthents, shallow-----	20	Limitations Thin layer Low piping potential	1.00 0.10	Limitations Slopes >7% Depth to bedrock <20" Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
400: Loslobos-----	35	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
Xeric Torriorthents, very gravelly	25	Limitations Thin layer Fragments (>3") 15-35% Low piping potential	0.95 0.76 0.02	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock from 20-60"	1.00 1.00 0.95
Badlands-----	20	Not rated		Not rated	
401: Loslobos-----	85	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
402: Loslobos-----	40	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
Walong-----	30	Limitations Fragments (>3") >35% Thin layer	1.00 0.88	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.88 0.50
403: Loslobos-----	45	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
Calleguas-----	35	Limitations Thin layer Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >7% Depth to bedrock <20"	1.00 1.00
404: Loslobos, moist-----	85	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
430: Littlesignal-----	45	Limitations Very high piping potential Thin layer	1.00 0.04	Limitations Slopes >7% Gypsum >15% to 80" depth Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
430: Cochora-----	40	Limitations Thin layer	1.00	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
431: Littlesignal-----	50	Limitations Very high piping potential Thin layer	1.00 0.04	Limitations Slopes >7% Gypsum >15% to 80" depth Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Cochora-----	35	Limitations Thin layer	1.00	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
432: Littlesignal-----	45	Limitations Very high piping potential Thin layer	1.00 0.06	Limitations Slopes >7% Gypsum >15% to 80" depth Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Badlands-----	25	Not rated		Not rated	
Cochora-----	20	Limitations Thin layer	1.00	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
440: Elkhills-----	50	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
Pyxo-----	35	Limitations Thin layer Low piping potential	0.86 0.02	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.86 0.50
441: Sodic Haplocambids, thick-----	60	Limitations Shrink-swell (LEP >6) Very high piping potential MH or CH Unified and PI <40%	1.00 1.00 0.50	Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00

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Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
442: Elkhills-----	80	No limitations		Limitations	
				Permeability >2"/hr (seepage)	1.00
				Slopes >7%	1.00
443: Elkhills-----	40	No limitations		Limitations	
				Slopes >7%	1.00
				Permeability >2"/hr (seepage)	1.00
Badlands-----	40	Not rated		Not rated	
444: Elkhills-----	90	No limitations		Limitations	
				Slopes >7%	1.00
				Permeability >2"/hr (seepage)	1.00
445: Sodic Haplocambids, thick-----	45	Limitations		Limitations	
		Shrink-swell (LEP >6)	1.00	Slopes >7%	1.00
		Very high piping potential	1.00	Permeability >2"/hr (seepage)	1.00
		MH or CH Unified and PI <40%	0.50		
Elkhills-----	40	No limitations		Limitations	
				Slopes >7%	1.00
				Permeability >2"/hr (seepage)	1.00
451: Beam-----	35	Limitations		Limitations	
		Thin layer	1.00	Slopes >7%	1.00
		Low piping potential	0.02	Permeability >2"/hr (seepage)	1.00
				Depth to bedrock <20"	1.00
Panoza-----	30	Limitations		Limitations	
		Thin layer	0.98	Slopes >7%	1.00
		High piping potential	0.50	Depth to bedrock from 20-60"	0.98
				Permeability .6-2"/hr (some seepage)	0.50
Hillbrick-----	15	Limitations		Limitations	
		Thin layer	1.00	Slopes >7%	1.00
		Very high piping potential	1.00	Permeability >2"/hr (seepage)	1.00
				Depth to bedrock <20"	1.00

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
460: Geghus-----	50	Limitations Shrink-swell (LEP 3-6) High piping potential	0.78 0.20	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Tecuya-----	30	Limitations High piping potential Fragments (>3") 15-35%	0.99 0.94	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
461: Geghus-----	50	Limitations Shrink-swell (LEP 3-6) High piping potential	0.78 0.20	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Tecuya-----	35	Limitations High piping potential Fragments (>3") 15-35%	0.99 0.94	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
462: Geghus-----	55	Limitations Shrink-swell (LEP 3-6) Thin layer High piping potential	0.78 0.37 0.24	Limitations Slopes >7% Permeability .6-2"/hr (some seepage) Depth to bedrock from 20-60"	1.00 0.50 0.37
Xeric Torriorthents, very gravelly	30	Limitations Thin layer Fragments (>3") 15-35% Low piping potential	0.95 0.81 0.02	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock from 20-60"	1.00 1.00 0.95
470: Pyxo-----	55	Limitations Thin layer Low piping potential	0.56 0.02	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.56 0.50
Cochora-----	30	Limitations Thin layer	1.00	Limitations Slopes >7% Depth to bedrock <20" Permeability >2"/hr (seepage)	1.00 1.00 1.00
471: Pyxo-----	40	Limitations Thin layer Low piping potential	0.91 0.02	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.91 0.50

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
471: Cochora-----	25	Limitations Thin layer	1.00	Limitations Slopes >7% Depth to bedrock <20" Permeability >2"/hr (seepage)	1.00 1.00 1.00
Badlands-----	15	Not rated		Not rated	
472: Pyxo-----	30	Limitations Thin layer Low piping potential	0.86 0.02	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.86 0.50
Kimberlina-----	30	No limitations		Limitations Permeability >2"/hr (seepage) Slopes >7%	1.00 1.00
Cochora-----	25	Limitations Thin layer	1.00	Limitations Permeability >2"/hr (seepage) Depth to bedrock <20" Slopes >7%	1.00 1.00 1.00
480: Pyxo, dry-----	45	Limitations Thin layer Low piping potential	0.86 0.02	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.86 0.50
Elkhills-----	35	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
490: Padres-----	65	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.66
500: Bitcreek-----	85	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	Limitations Permeability .6-2"/hr (some seepage) Slopes 2-7%	0.50 0.01

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
510: Beam-----	35	Limitations Thin layer Low piping potential	1.00 0.02	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
Panoza-----	30	Limitations Thin layer High piping potential	0.98 0.50	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.98 0.50
Hillbrick-----	15	Limitations Thin layer Very high piping potential	1.00 1.00	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
511: Beam-----	35	Limitations Thin layer Low piping potential	1.00 0.02	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
Panoza-----	30	Limitations Thin layer Very high piping potential	1.00 1.00	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.98 0.50
Hillbrick-----	15	Limitations Thin layer Very high piping potential	1.00 1.00	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
515: Zonap-----	50	Limitations Thin layer	0.95	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.95 0.50
Badlands-----	20	Not rated		Not rated	
Beam-----	15	Limitations Thin layer Low piping potential	1.00 0.02	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
516: Zonap-----	45	Limitations Thin layer	0.95	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.95 0.50
Beam-----	40	Limitations Thin layer Low piping potential	1.00 0.02	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
530: Tehachapi-----	80	No limitations Fragments (>3") 15-35%	0.03	Limitations Permeability .6-2"/hr (some seepage) Slopes 2-7%	0.50 0.08
531: Tehachapi-----	85	No limitations Fragments (>3") 15-35%	0.03	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
540: Xeric Torriorthents-----	50	Limitations Thin layer	0.34	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock from 20-60"	1.00 1.00 0.34
Badlands-----	25	Not rated		Not rated	
550: Elkhills-----	45	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
Welport-----	45	Limitations Thin layer	1.00	Limitations Slopes >7% Depth to pan <20" Permeability >2"/hr (seepage)	1.00 1.00 1.00
560: Laval-----	44	Limitations Seepage	1.00	Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.01
Pleitito-----	44	No limitations		Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.01

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
561: Laval-----	45	Limitations Seepage	1.00	Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.31
Pleitito-----	45	No limitations		Limitations Permeability >2"/hr (seepage) Slopes >7%	1.00 1.00
570: Hillbrick-----	65	Limitations Thin layer Very high piping potential	1.00 1.00	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
571: Hillbrick-----	65	Limitations Thin layer Very high piping potential	1.00 1.00	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
580: Reward-----	45	Limitations Shrink-swell (LEP 3-6)	0.50	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Hillbrick-----	45	Limitations Thin layer	1.00	Limitations Slopes >7% Depth to bedrock <20" Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
581: Reward-----	85	Limitations Shrink-swell (LEP 3-6)	0.50	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
583: Bellyspring-----	35	Limitations Thin layer	0.56	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock from 20-60"	1.00 1.00 0.56

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
583: Panoza-----	25	Limitations Thin layer High piping potential	0.98 0.50	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.98 0.50
584: Bellyspring-----	35	Limitations Thin layer	0.56	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock from 20-60"	1.00 1.00 0.56
Panoza-----	30	Limitations Thin layer High piping potential	0.98 0.50	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.98 0.50
585: Bellyspring-----	35	Limitations Thin layer	0.56	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock from 20-60"	1.00 1.00 0.56
Panoza-----	30	Limitations Thin layer High piping potential	0.98 0.50	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.98 0.50
586: Panoza-----	40	Limitations Thin layer High piping potential	0.98 0.50	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.98 0.50
Beam-----	30	Limitations Thin layer Low piping potential	1.00 0.02	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
587: Panoza-----	40	Limitations Thin layer High piping potential	0.98 0.50	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.98 0.50

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
587: Beam-----	30	Limitations Thin layer Low piping potential	1.00 0.02	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
588: Panoza-----	40	Limitations Thin layer High piping potential	0.98 0.50	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.98 0.50
Beam-----	30	Limitations Thin layer Low piping potential	1.00 0.02	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
590: Gorman-----	35	Limitations Shrink-swell (LEP 3-6)	0.78	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Typic Xerorthents, mesic-----	30	Limitations Thin layer Low piping potential	0.74 0.02	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.74 0.50
Xerorthents, shallow-----	20	Limitations Thin layer Low piping potential	1.00 0.10	Limitations Slopes >7% Depth to bedrock <20" Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
591: Geghus-----	40	Limitations Shrink-swell (LEP 3-6) High piping potential	0.78 0.20	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Selby-----	40	Limitations Fragments (>3") >35% Thin layer	1.00 0.96	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock from 20-60"	1.00 1.00 0.96
600: Positas-----	45	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.66

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
600: Bitcreek-----	35	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	Limitations Slopes 2-7% Permeability .6-2"/hr (some seepage)	0.66 0.50
610: Balcom-----	55	Limitations High piping potential Thin layer	0.83 0.77	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.77 0.50
Rock outcrop-----	20	Not rated		Not rated	
620: Typic Xerorthents, mesic-----	40	Limitations Thin layer Low piping potential	0.74 0.02	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.74 0.50
Haploxerepts-----	40	No limitations		Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Xerorthents, sandy-----	18	Limitations Seepage Thin layer	1.00 0.42	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock from 20-60"	1.00 1.00 0.42
640: Bitcreek-----	40	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Dibble-----	30	Limitations Shrink-swell (LEP 3-6) Thin layer	0.78 0.56	Limitations Slopes >7% Depth to bedrock from 20-60"	1.00 0.56
Eaglerest-----	15	Limitations Thin layer	1.00	Limitations Slopes >7% Depth to bedrock <20" Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
650: Lithic Argixerolls-----	50	Limitations Thin layer Fragments (>3") >35%	1.00 1.00	Limitations Slopes >7% Depth to bedrock <20"	1.00 1.00

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
650: Lithic Xerorthents, mesic-----	25	Limitations Thin layer Fragments (>3") >35%	1.00 1.00	Limitations Slopes >7% Depth to bedrock <20"	1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
660: Elkhills-----	70	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
Legray-----	20	Limitations Possible seepage Fragments (>3") 15-35% Low piping potential	0.50 0.21 0.10	Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
661: Elkhills-----	40	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
Legray-----	40	Limitations Possible seepage Fragments (>3") 15-35% Low piping potential	0.50 0.21 0.10	Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
670: Harrisranch-----	60	No limitations		Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Rock outcrop-----	20	Not rated		Not rated	
680: Milham-----	90	Limitations High piping potential	0.90	Limitations Permeability >2"/hr (seepage) Slopes 2-7%	1.00 0.01
690: Dibble-----	45	Limitations Shrink-swell (LEP 3-6) Thin layer	0.78 0.56	Limitations Slopes >7% Depth to bedrock from 20-60"	1.00 0.56
Geghus-----	40	Limitations Shrink-swell (LEP 3-6) High piping potential	0.78 0.20	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
700: Xerolls, loamy-skeletal-----	55	Limitations Fragments (>3") >35%	0.99	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Los Gatos-----	30	Limitations Thin layer Shrink-swell (LEP 3-6)	0.88 0.78	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.88 0.50
720: Friant-----	50	Limitations Thin layer	1.00	Limitations Slopes >7% Depth to bedrock <20"	1.00 1.00
Geghus-----	20	Limitations Shrink-swell (LEP 3-6) High piping potential	0.78 0.20	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Lithic Xerorthents, thermic-----	20	Limitations Thin layer	1.00	Limitations Slopes >7% Depth to bedrock <20"	1.00 1.00
724: Elkhills-----	90	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
725: Sodic Haplocambids, thick-----	85	Limitations Shrink-swell (LEP >6) Very high piping potential MH or CH Unified and PI <40%	1.00 1.00 0.50	Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
726: Sodic Haplocambids, thick-----	90	Limitations Shrink-swell (LEP >6) Very high piping potential MH or CH Unified and PI <40%	1.00 1.00 0.50	Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
727: Sodic Haplocambids, thick-----	90	Limitations Shrink-swell (LEP >6) Very high piping potential MH or CH Unified and PI <40%	1.00 1.00 0.50	Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
728: Torriorthents, very thin-----	85	Limitations EC >16 dS/m Very high piping potential Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >7% Depth to bedrock from 20-60"	1.00 0.77
729: Sodic Haplocambids, thick-----	40	Limitations Shrink-swell (LEP >6) Very high piping potential MH or CH Unified and PI <40%	1.00 1.00 0.50	Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
Torriorthents, thin-----	30	Limitations EC >16 dS/m Shrink-swell (LEP >6) Very high piping potential	1.00 1.00 1.00	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Torriorthents, very thin, eroded--	15	Limitations EC >16 dS/m Very high piping potential Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >7% Depth to bedrock from 20-60"	1.00 0.77
730: Haplocambids, thick-----	50	Limitations Very high piping potential EC 8-16 dS/m	1.00 0.97	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Elkhills-----	30	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
731: Haplocambids, thick-----	45	Limitations Very high piping potential EC 8-16 dS/m	1.00 0.97	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Elkhills-----	40	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
732: Elkhills-----	50	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
732: Haplocambids, thick-----	40	Limitations Very high piping potential EC 8-16 dS/m	1.00 0.97	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
733: Sodic Haplocambids, thick-----	50	Limitations Shrink-swell (LEP >6) Very high piping potential MH or CH Unified and PI <40%	1.00 1.00 0.50	Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
Torriorthents, thin-----	35	Limitations EC >16 dS/m Shrink-swell (LEP >6) Very high piping potential	1.00 1.00 1.00	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
734: Sodic Haplocambids, thick-----	40	Limitations Shrink-swell (LEP >6) Very high piping potential MH or CH Unified and PI <40%	1.00 1.00 0.50	Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
Torriorthents, very thin, eroded--	25	Limitations EC >16 dS/m Very high piping potential Shrink-swell (LEP 3-6)	1.00 1.00 0.78	Limitations Slopes >7% Depth to bedrock from 20-60"	1.00 0.77
Elkhills-----	24	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
735: Sodic Haplocambids, thick-----	40	Limitations Shrink-swell (LEP >6) Very high piping potential MH or CH Unified and PI <40%	1.00 1.00 0.50	Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
Elkhills-----	25	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
Torriorthents, thin-----	20	Limitations EC >16 dS/m Shrink-swell (LEP >6) Very high piping potential	1.00 1.00 1.00	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
750: Ballinger-----	85	Limitations EC 8-16 dS/m Thin layer Shrink-swell (LEP 3-6)	0.97 0.85 0.78	Limitations Slopes >7% Gypsum >15% to 80" depth Depth to bedrock from 20-60"	1.00 1.00 0.85
760: Ballinger-----	85	Limitations EC 8-16 dS/m Thin layer Shrink-swell (LEP 3-6)	0.97 0.85 0.78	Limitations Slopes >7% Gypsum >15% to 80" depth Depth to bedrock from 20-60"	1.00 1.00 0.85
780: Stutzville-----	85	Limitations EC >16 dS/m Very high piping potential Shrink-swell (LEP 3-6)	1.00 1.00 0.78	No limitations	
850: Xerofluvents-----	85	Limitations Seepage	1.00	Limitations Permeability >2"/hr (seepage)	1.00
860: Hawk-----	90	No limitations		Limitations Slopes >7% Permeability >2"/hr (seepage)	1.00 1.00
870: Frazier-----	80	Limitations Thin layer	0.99	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock from 20-60"	1.00 1.00 0.99
880: Chuchupate-----	90	Limitations Thin layer	0.66	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock from 20-60"	1.00 1.00 0.66
890: Gorman-----	90	Limitations Shrink-swell (LEP 3-6)	0.78	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
919: Zonap-----	40	Limitations Thin layer	0.95	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.95 0.50
Harrisranch-----	30	No limitations		Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Beam-----	15	Limitations Thin layer	1.00	Limitations Slopes >7% Permeability >2"/hr (seepage) Depth to bedrock <20"	1.00 1.00 1.00
930: Bitcreek-----	40	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Shimmon-----	25	Limitations Thin layer Shrink-swell (LEP 3-6)	0.99 0.78	Limitations Slopes >7% Depth to bedrock <20"	1.00 0.99
Balhud-----	15	Limitations Thin layer Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >7% Depth to bedrock <20"	1.00 1.00
932: Bitcreek-----	40	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Shimmon-----	25	Limitations Thin layer Shrink-swell (LEP 3-6)	0.99 0.78	Limitations Slopes >7% Depth to bedrock <20"	1.00 0.99
Balhud-----	20	Limitations Thin layer Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >7% Depth to bedrock <20"	1.00 1.00
940: Bitcreek-----	90	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	Limitations Permeability .6-2"/hr (some seepage) Slopes 2-7%	0.50 0.31

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
950: Pleito-----	40	No limitations		Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Ballinger-----	25	Limitations EC 8-16 dS/m Shrink-swell (LEP 3-6) Thin layer	0.97 0.78 0.66	Limitations Slopes >7% Gypsum >15% to 80" depth Depth to bedrock from 20-60"	1.00 1.00 0.66
Balhud-----	20	Limitations Thin layer Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Slopes >7% Depth to bedrock <20"	1.00 1.00
951: Bitcreek-----	40	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Balhud-----	30	Limitations Thin layer Shrink-swell (LEP 3-6)	1.00 0.78	Limitations Depth to bedrock <20" Slopes >7%	1.00 1.00
Ballinger-----	15	Limitations EC 8-16 dS/m Shrink-swell (LEP 3-6) Thin layer	0.97 0.78 0.66	Limitations Gypsum >15% to 80" depth Slopes >7% Depth to bedrock from 20-60"	1.00 1.00 0.66
954: Typic Haploxeralfs, fine-----	50	Limitations Thin layer Shrink-swell (LEP 3-6)	0.98 0.78	Limitations Slopes >7% Depth to bedrock from 20-60"	1.00 0.98
Haploxerolls, coarse-loamy-----	30	Limitations Fragments (>3") >35% Thin layer	1.00 0.74	Limitations Slopes >7% Depth to bedrock from 20-60" Permeability .6-2"/hr (some seepage)	1.00 0.74 0.50
955: Calcic Haploxerepts-----	30	Limitations Shrink-swell (LEP 3-6) Low piping potential	0.78 0.05	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50

Table 16a.--Water Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Embankments, dikes, and levees		Pond reservoir areas	
		Limitations	Value	Limitations	Value
955: Xerorthents, shallow-----	25	Limitations Thin layer	1.00	Limitations Slopes >7% Depth to bedrock <20" Permeability .6-2"/hr (some seepage)	1.00 1.00 0.50
Badlands-----	20	Not rated		Not rated	
970: Harrisranch-----	50	No limitations		Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
Bitcreek-----	35	Limitations Shrink-swell (LEP >6) MH or CH Unified and PI <40%	1.00 0.50	Limitations Slopes >7% Permeability .6-2"/hr (some seepage)	1.00 0.50
980: Area not surveyed, access denied--	100	Not rated		Not rated	
W: Water-----	100	Not rated		Not rated	

The interpretation for embankments, dikes, and levees evaluates the following soil properties and characteristics: ponding; wetness; depth to a restrictive layer; rock fragments greater than 3 inches; salinity (EC); Unified classes for high content of organic content (PT, OL, or OH); Unified classes that are hard to pack (MH or CH); permeability that is too rapid, allowing seepage; piping as determined by Atterberg limits of liquid limit (LL) and plasticity index (PI); sodium content (SAR); and gypsum content.

The interpretation for pond reservoir areas evaluates the following soil properties: slope, depth to hard or soft bedrock, depth to a cemented pan, marly textures, gypsum content, and permeability that is too rapid, allowing seepage.

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Table 16b.--Water Management (Part 2)

[The information in this table is based on interpretations developed by the Pacific Southwest MLRA Office. The information indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The rating is based on the limitation with the highest value. Only the three highest value limitations are listed. There may be more limitations. Fine-earth fractions and coarse fragments are reported on the basis of weight. An explanation of the rating criteria and of the abbreviations used in describing the limitations is given at the end of the table]

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
101: Bakersfield, drained	80	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27
102: Bakersfield, partially drained--	85	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00
110: Buttonwillow-----	75	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.76 0.45	Limitations SAR 0.5-10 to a depth of 40"	0.45	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.76 0.45
120: Granoso-----	85	Limitations LCOS, COS, S, or LS in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations Sand textures in surface Seepage WEG 1 or 2	1.00 1.00 1.00
121: Granoso-----	85	Limitations LCOS, COS, S, or LS in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations Sand textures in surface Seepage WEG 1 or 2	1.00 1.00 1.00
122: Granoso, loamy substratum-----	85	Limitations LCOS, COS, S, or LS in surface WEG 1 or 2 AWC from 4-6"	1.00 1.00 0.99	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations Sand textures in surface WEG 1 or 2 AWC from 4-6"	1.00 1.00 0.99
123: Granoso-----	85	Limitations AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 0.01	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations Seepage AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.01

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Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
124: Granoso-----	90	Limitations LCOS, COS, S, or LS in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations Sand textures in surface Seepage WEG 1 or 2	1.00 1.00 1.00
130: Cerini-----	85	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14
131: Calflax-----	85	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00
132: Cerini-----	85	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14
133: Calflax-----	85	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00
134: Cerini-----	85	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.14
140: Copus silty clay, partially drained--	85	Limitations AWC from 4-6" EC 4-8 dS/m SAR 0.5-10 to a depth of 40"	0.80 0.12 0.01	Limitations EC 4-8 dS/m SAR 0.5-10 to a depth of 40"	0.12 0.01	Limitations AWC from 4-6" EC 4-8 dS/m SAR 0.5-10 to a depth of 40"	0.80 0.12 0.01
141: Copus clay, partially drained--	95	Limitations Surface clay >= 60% AWC from 4-6" EC 4-8 dS/m	1.00 0.94 0.12	Limitations EC 4-8 dS/m SAR 0.5-10 to a depth of 40"	0.12 0.01	Limitations AWC from 4-6" EC 4-8 dS/m SAR 0.5-10 to a depth of 40"	0.94 0.12 0.01
150: Excelsior-----	85	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14
151: Excelsior-----	85	Limitations EC >8 dS/m SAR 0.5-10 to a depth of 40"	1.00 0.14	Limitations EC >8 dS/m SAR 0.5-10 to a depth of 40"	1.00 0.14	Limitations EC >8 dS/m SAR 0.5-10 to a depth of 40"	1.00 0.14

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Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
152: Excelsior-----	85	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14
153: Tupman-----	80	Limitations AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 0.14
154: Tupman-----	70	Limitations AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations AWC <4" to 40" Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 1.00 0.14
Urban land-----	20	Not rated		Not rated		Not rated	
160: Fages-----	80	Limitations SAR >10 to a depth of 40" AWC <4" to 40" EC >8 dS/m	1.00 1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" AWC <4" to 40" EC >8 dS/m	1.00 1.00 1.00
179: Padres-----	70	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.81 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.81 0.14
180: Garces-----	85	Limitations SAR >10 to a depth of 40" EC >8 dS/m AWC from 4-6"	1.00 1.00 0.12	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m AWC from 4-6"	1.00 1.00 0.12
190: Gujarral-----	85	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.73 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.73 0.14
191: Gujarral-----	85	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.73 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.73 0.14
192: Gujarral-----	45	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.73 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.73 0.14

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
192: Klipstein-----	45	Limitations AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations AWC <4" to 40" Fragments (>3") >10% Slopes >2%	1.00 1.00 1.00
193: Guijarral-----	85	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.98 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.98 0.14
195: Guijarral, extremely gravelly substratum-----	60	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40" Slopes 6 to 15%	0.98 0.14 0.02	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.98 0.14
Guijarral-----	30	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40" Slopes 6 to 15%	0.95 0.14 0.02	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.95 0.14
197: Klipstein-----	60	Limitations AWC <4" to 40" Slopes 6 to 15% SAR 0.5-10 to a depth of 40"	1.00 0.40 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations AWC <4" to 40" Slopes >2% Fragments (>3") >10%	1.00 1.00 1.00
Guijarral-----	25	Limitations AWC from 4-6" Slopes 6 to 15% SAR 0.5-10 to a depth of 40"	0.98 0.40 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.98 0.14
200: Hesperia-----	85	Limitations LCOS, COS, S, or LS in surface WEG 1 or 2 AWC from 4-6"	1.00 1.00 0.56	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations Sand textures in surface WEG 1 or 2 AWC from 4-6"	1.00 1.00 0.56
201: Hesperia-----	85	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.83 0.01	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.83 0.01
210: Kimberlina-----	85	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.60 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.60 0.05

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
211: Kimberlina-----	80	Limitations AWC from 4-6"	0.12	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC from 4-6"	1.00
		SAR 0.5-10 to a depth of 40"	0.05			SAR 0.5-10 to a depth of 40"	0.05
212: Kimberlina, saline- sodic-----	85	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40"	1.00
		AWC from 4-6"	0.60	EC 4-8 dS/m	0.50	AWC from 4-6"	0.60
		EC 4-8 dS/m	0.50			EC 4-8 dS/m	0.50
214: Kimberlina-----	85	Limitations AWC from 4-6"	0.26	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations AWC from 4-6"	0.26
		SAR 0.5-10 to a depth of 40"	0.05			SAR 0.5-10 to a depth of 40"	0.05
215: Kimberlina-----	85	Limitations AWC from 4-6"	0.93	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC from 4-6"	1.00
		SAR 0.5-10 to a depth of 40"	0.05			SAR 0.5-10 to a depth of 40"	0.93
		Slopes 6 to 15%	0.02			SAR 0.5-10 to a depth of 40"	0.05
216: Kimberlina, occasionally flooded-----	50	Limitations AWC from 4-6"	0.26	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC from 4-6"	1.00
		SAR 0.5-10 to a depth of 40"	0.05			SAR 0.5-10 to a depth of 40"	0.26
						SAR 0.5-10 to a depth of 40"	0.05
Granoso, occasionally flooded-----	35	Limitations LCOS, COS, S, or LS in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations Sand textures in surface Seepage WEG 1 or 2	1.00 1.00 1.00
217: Kimberlina-----	50	Limitations AWC from 4-6"	0.26	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC from 4-6"	1.00
		SAR 0.5-10 to a depth of 40"	0.05			SAR 0.5-10 to a depth of 40"	0.26
						SAR 0.5-10 to a depth of 40"	0.05
Urban land-----	35	Not rated		Not rated		Not rated	
219: Xerorthents-----	50	Limitations Depth to bedrock (hard) <40"	1.00	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Depth to bedrock (hard) <40"	1.00
		AWC <4" to 40"	1.00			AWC <4" to 40"	1.00
		Slopes >15%	1.00			Slopes >2%	1.00
Badlands-----	35	Not rated		Not rated		Not rated	

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
220: Lokern-----	85	Limitations AWC from 4-6"	0.82	Limitations SAR 0.5-10 to a depth of 40"	0.45	Limitations AWC from 4-6"	0.82
		SAR 0.5-10 to a depth of 40"	0.45			SAR 0.5-10 to a depth of 40"	0.45
221: Lokern, partially drained-----	85	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40"	1.00
		AWC from 4-6"	0.82	EC 4-8 dS/m	0.50	AWC from 4-6"	0.82
		EC 4-8 dS/m	0.50			EC 4-8 dS/m	0.50
230: Milagro-----	85	Limitations LCOS, COS, S, or LS in surface	1.00	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Sand textures in surface	1.00
		WEG 1 or 2	1.00			WEG 1 or 2	1.00
		AWC from 4-6"	0.44			AWC from 4-6"	0.44
231: Milagro-----	85	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27
		AWC from 4-6"	0.01			AWC from 4-6"	0.01
240: Millox, partially drained-----	85	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40"	1.00
		AWC <4" to 40"	1.00	EC >8 dS/m	1.00	AWC <4" to 40"	1.00
		EC >8 dS/m	1.00			EC >8 dS/m	1.00
241: Millox, partially drained, nonsaline-	85	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40"	1.00
		AWC <4" to 40"	1.00			AWC <4" to 40"	1.00
242: Millox, partially drained-----	55	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40"	1.00
		AWC <4" to 40"	1.00	EC >8 dS/m	1.00	AWC <4" to 40"	1.00
		EC >8 dS/m	1.00			EC >8 dS/m	1.00
Tennco-----	35	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40"	1.00
		EC >8 dS/m	1.00	EC >8 dS/m	1.00	EC >8 dS/m	1.00
		AWC from 4-6"	0.14			AWC from 4-6"	0.14

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
243: Millox, partially drained-----	50	Limitations SAR >10 to a depth of 40" AWC <4" to 40"	1.00 1.00	Limitations SAR >10 to a depth of 40"	1.00	Limitations SAR >10 to a depth of 40" AWC <4" to 40"	1.00 1.00
Zalvidea, partially drained-----	35	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40" EC 4-8 dS/m	0.54 0.14 0.12	Limitations SAR 0.5-10 to a depth of 40" EC 4-8 dS/m	0.14 0.12	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40" EC 4-8 dS/m	0.54 0.14 0.12
246: Whitewolf-----	85	Limitations AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 0.01	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations AWC <4" to 40" Possible seepage SAR 0.5-10 to a depth of 40"	1.00 0.50 0.01
250: Oldriver-----	85	Limitations SAR 0.5-10 to a depth of 40" AWC from 4-6"	0.45 0.11	Limitations SAR 0.5-10 to a depth of 40"	0.45	Limitations SAR 0.5-10 to a depth of 40" AWC from 4-6"	0.45 0.11
251: Oldriver, partially drained, sodic-----	85	Limitations SAR >10 to a depth of 40" EC >8 dS/m AWC from 4-6"	1.00 1.00 0.11	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m AWC from 4-6"	1.00 1.00 0.11
260: Panoche-----	85	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14
270: Pits-----	50	Not rated		Not rated		Not rated	
Dumps-----	50	Not rated		Not rated		Not rated	
280: Premier-----	85	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.08 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.08 0.05
281: Premier-----	85	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.08 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.08 0.05
290: Riverwash-----	85	Not rated		Not rated		Not rated	

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
300: Tennco-----	85	Limitations SAR >10 to a depth of 40" EC >8 dS/m AWC from 4-6"	1.00 1.00 0.14	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m AWC from 4-6"	1.00 1.00 0.14
310: Vineland, drained---	85	Limitations LCOS, COS, S, or LS in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Sand textures in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00
312: Vineland, drained---	50	Limitations LCOS, COS, S, or LS in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Sand textures in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00
Bakersfield, drained	40	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27
320: Wasco-----	85	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.61 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.61 0.05
330: Cuyama-----	85	Limitations SAR 0.5-10 to a depth of 40"	0.98	Limitations SAR 0.5-10 to a depth of 40"	0.98	Limitations Seepage Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 1.00 0.98
331: Cuyama-----	85	Limitations SAR 0.5-10 to a depth of 40" Slopes 6 to 15%	0.98 0.40	Limitations SAR 0.5-10 to a depth of 40"	0.98	Limitations Slopes >2% Seepage SAR 0.5-10 to a depth of 40"	1.00 1.00 0.98
332: Cuyama-----	85	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.98	Limitations SAR 0.5-10 to a depth of 40"	0.98	Limitations Slopes >2% Seepage SAR 0.5-10 to a depth of 40"	1.00 1.00 0.98
340: Weedpatch-----	85	Limitations SAR 0.5-10 to a depth of 40" EC 4-8 dS/m	0.80 0.15	Limitations SAR 0.5-10 to a depth of 40" EC 4-8 dS/m	0.80 0.15	Limitations SAR 0.5-10 to a depth of 40" EC 4-8 dS/m	0.80 0.15

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
350: Posochanet, saline- sodic-----	85	Limitations SAR >10 to a depth of 40" EC >8 dS/m AWC from 4-6"	1.00 1.00 0.82	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m AWC from 4-6"	1.00 1.00 0.82
351: Posochanet, saline- sodic-----	75	Limitations SAR >10 to a depth of 40" EC >8 dS/m AWC from 4-6"	1.00 1.00 0.82	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m AWC from 4-6"	1.00 1.00 0.82
352: Posochanet-----	70	Limitations SAR >10 to a depth of 40" EC >8 dS/m AWC from 4-6"	1.00 1.00 0.82	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m AWC from 4-6"	1.00 1.00 0.82
Posochanet, partially reclaimed	20	Limitations EC >8 dS/m SAR 0.5-10 to a depth of 40" AWC from 4-6"	1.00 0.91 0.82	Limitations EC >8 dS/m SAR 0.5-10 to a depth of 40"	1.00 0.91	Limitations EC >8 dS/m SAR 0.5-10 to a depth of 40" AWC from 4-6"	1.00 0.91 0.82
360: Wheelridge-----	85	Limitations LCOS, COS, S, or LS in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Sand textures in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00
370: Whitewolf-----	85	Limitations LCOS, COS, S, or LS in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations Sand textures in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00
371: Whitewolf-----	85	Limitations LCOS, COS, S, or LS in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations Sand textures in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00
380: Zalvidea, partially drained-----	85	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40" EC 4-8 dS/m	0.54 0.14 0.12	Limitations SAR 0.5-10 to a depth of 40" EC 4-8 dS/m	0.14 0.12	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40" EC 4-8 dS/m	0.54 0.14 0.12

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
381: Zalvidea, partially drained-----	85	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40" EC 4-8 dS/m	0.54 0.14 0.12	Limitations SAR 0.5-10 to a depth of 40" EC 4-8 dS/m	0.14 0.12	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40" EC 4-8 dS/m	0.54 0.14 0.12
389: Xerofluvents-----	30	Limitations AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations AWC <4" to 40" Seepage Slopes >2%	1.00 1.00 1.00
Haploxerepts-----	30	Limitations AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations AWC <4" to 40" Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05
Riverwash-----	15	Not rated		Not rated		Not rated	
390: Pleito-----	85	Limitations AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 0.05
391: Pleito-----	80	Limitations AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations AWC <4" to 40" Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05
392: Pleito-----	85	Limitations AWC <4" to 40" SAR 0.5-10 to a depth of 40" Slopes 6 to 15%	1.00 0.05 0.02	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05
393: Pleito-----	85	Limitations AWC <4" to 40" Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05
394: Pleito-----	45	Limitations Slopes >15% AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
394: Xeric Torriorthents, very gravelly-----	40	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >15%	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.45	Limitations Depth to bedrock (hard) <40" Fragments (>3") >10% AWC <4" to 40"	1.00 1.00 1.00
395: Pleito-----	50	Limitations Slopes >15% AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05
Emidio-----	20	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.05
Loslobos-----	15	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14
396: Pleito-----	60	Limitations Slopes >15% AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05
Loslobos-----	25	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14
398: Calcic Haploxerepts-	30	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.14
Calcic Pachic Argixerolls, fine---	25	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.05
Xerorthents, shallow	20	Limitations AWC <4" to 40" Slopes >15% Depth to bedrock (soft) <40"	1.00 1.00 0.97	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.65	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.97

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
400: Loslobos-----	35	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14
Xeric Torriorthents, very gravelly-----	25	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >15%	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.45	Limitations Depth to bedrock (hard) <40" Fragments (>3") >10% AWC <4" to 40"	1.00 1.00 1.00
Badlands-----	20	Not rated		Not rated		Not rated	
401: Loslobos-----	85	Limitations Slopes >15% Surface K-factor >.32; slopes >2% AWC from 4-6"	1.00 1.00 0.67	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14
402: Loslobos-----	40	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14
Walong-----	30	Limitations AWC <4" to 40" Slopes >15% Depth to bedrock (soft) <40"	1.00 1.00 0.99	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC <4" to 40" Fragments (>3") >10%	1.00 1.00 1.00
403: Loslobos-----	45	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14
Calleguas-----	35	Limitations AWC <4" to 40" Slopes >15% Surface K-factor >.32; slopes >2%	1.00 1.00 1.00	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.27	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.96
404: Loslobos, moist-----	85	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.67 0.14

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
430:							
Littlesignal-----	45	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR >10 to a	1.00	Slopes >2%	1.00
		SAR >10 to a	1.00	depth of 40"		SAR >10 to a	1.00
		depth of 40"		EC 4-8 dS/m	0.79	depth of 40"	
		EC 4-8 dS/m	0.79			EC 4-8 dS/m	0.79
Cochora-----	40	Limitations		Limitations		Limitations	
		AWC <4" to 40"	1.00	Bedrock at a	1.00	AWC <4" to 40"	1.00
		Slopes >15%	1.00	depth of <20"		Slopes >2%	1.00
		Surface K-factor	1.00	SAR 0.5-10 to a	0.05	Depth to bedrock	0.96
		>.32; slopes >2%		depth of 40"		(soft) <40"	
431:							
Littlesignal-----	50	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR >10 to a	1.00	Slopes >2%	1.00
		SAR >10 to a	1.00	depth of 40"		SAR >10 to a	1.00
		depth of 40"		EC 4-8 dS/m	0.79	depth of 40"	
		EC 4-8 dS/m	0.79			EC 4-8 dS/m	0.79
Cochora-----	35	Limitations		Limitations		Limitations	
		AWC <4" to 40"	1.00	Bedrock at a	1.00	AWC <4" to 40"	1.00
		Slopes >15%	1.00	depth of <20"		Slopes >2%	1.00
		Surface K-factor	1.00	SAR 0.5-10 to a	0.05	Depth to bedrock	0.96
		>.32; slopes >2%		depth of 40"		(soft) <40"	
432:							
Littlesignal-----	45	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR >10 to a	1.00	Slopes >2%	1.00
		SAR >10 to a	1.00	depth of 40"		SAR >10 to a	1.00
		depth of 40"		EC 4-8 dS/m	0.79	depth of 40"	
		EC 4-8 dS/m	0.79			EC 4-8 dS/m	0.79
Badlands-----	25	Not rated		Not rated		Not rated	
Cochora-----	20	Limitations		Limitations		Limitations	
		AWC <4" to 40"	1.00	Bedrock at a	1.00	AWC <4" to 40"	1.00
		Slopes >15%	1.00	depth of <20"		Slopes >2%	1.00
		Surface K-factor	1.00	SAR 0.5-10 to a	0.05	Depth to bedrock	0.96
		>.32; slopes >2%		depth of 40"		(soft) <40"	
440:							
Elkhills-----	50	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a	0.27	Slopes >2%	1.00
		AWC from 4-6"	0.56	depth of 40"		AWC from 4-6"	0.56
		SAR 0.5-10 to a	0.27			SAR 0.5-10 to a	0.27
		depth of 40"				depth of 40"	
Pyxo-----	35	Limitations		Limitations		Limitations	
		Depth to bedrock	1.00	SAR 0.5-10 to a	0.45	Depth to bedrock	1.00
		(soft) <40"		depth of 40"		(soft) <40"	
		Slopes >15%	1.00			Slopes >2%	1.00
		Surface K-factor	1.00			AWC from 4-6"	0.55
		>.32; slopes >2%					
441:							
Sodic Haplocambids, thick-----	60	Not rated		Not rated		Not rated	

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
442: Elkhills-----	80	Limitations AWC from 4-6" Slopes 6 to 15% SAR 0.5-10 to a depth of 40"	0.56 0.40 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27
443: Elkhills-----	40	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27
Badlands-----	40	Not rated		Not rated		Not rated	
444: Elkhills-----	90	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27
445: Sodic Haplocambids, thick-----	45	Not rated		Not rated		Not rated	
Elkhills-----	40	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27
451: Beam-----	35	Limitations AWC <4" to 40" Slopes >15% Depth to bedrock (soft) <40"	1.00 1.00 0.96	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.45	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.96
Panoza-----	30	Limitations Slopes >15% Surface K-factor >.32; slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.97	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.97 0.71
Hillbrick-----	15	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >2%	1.00 1.00 1.00
460: Geghus-----	50	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.05

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
460: Tecuya-----	30	Limitations Surface K-factor >.32; slopes >2% Slopes 6 to 15% Fragments (>3") >25%	1.00 0.78 0.50	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Fragments (>3") >10% Slopes >2% AWC from 4-6"	1.00 1.00 0.34
461: Geghus-----	50	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.05
Tecuya-----	35	Limitations Slopes >15% Surface K-factor >.32; slopes >2% Fragments (>3") >25%	1.00 1.00 0.50	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Fragments (>3") >10% Slopes >2% AWC from 4-6"	1.00 1.00 0.34
462: Geghus-----	55	Limitations Slopes >15% Depth to bedrock (hard) <40" SAR 0.5-10 to a depth of 40"	1.00 0.63 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% Depth to bedrock (hard) <40" SAR 0.5-10 to a depth of 40"	1.00 0.63 0.05
Xeric Torriorthents, very gravelly-----	30	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >15%	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.45	Limitations Depth to bedrock (hard) <40" Fragments (>3") >10% AWC <4" to 40"	1.00 1.00 1.00
470: Pyxo-----	55	Limitations Slopes >15% Surface K-factor >.32; slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.91	Limitations SAR 0.5-10 to a depth of 40"	0.45	Limitations Slopes >2% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.91 0.55
Cochora-----	30	Limitations AWC <4" to 40" Slopes >15% Surface K-factor >.32; slopes >2%	1.00 1.00 1.00	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.96
471: Pyxo-----	40	Limitations Slopes >15% Surface K-factor >.32; slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.99	Limitations SAR 0.5-10 to a depth of 40"	0.45	Limitations Slopes >2% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.99 0.67

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
471: Cochora-----	25	Limitations AWC <4" to 40" Slopes >15% Surface K-factor >.32; slopes >2%	1.00 1.00 1.00	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.96
Badlands-----	15	Not rated		Not rated		Not rated	
472: Pyxo-----	30	Limitations Depth to bedrock (soft) <40" Surface K-factor >.32; slopes >2% AWC from 4-6"	1.00 1.00 0.55	Limitations SAR 0.5-10 to a depth of 40"	0.45	Limitations Depth to bedrock (soft) <40" Slopes >2% AWC from 4-6"	1.00 1.00 0.55
Kimberlina-----	30	Limitations Slopes 6 to 15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.40 0.26 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.26 0.05
Cochora-----	25	Limitations AWC <4" to 40" Surface K-factor >.32; slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.96	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.96
480: Pyxo, dry-----	45	Limitations Depth to bedrock (soft) <40" Slopes >15% Surface K-factor >.32; slopes >2%	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.45	Limitations Depth to bedrock (soft) <40" Slopes >2% AWC from 4-6"	1.00 1.00 0.55
Elkhills-----	35	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27
490: Padres-----	65	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.81 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.81 0.14
500: Bitcreek-----	85	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.27

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
510:							
Beam-----	35	Limitations		Limitations		Limitations	
		AWC <4" to 40"	1.00	Bedrock at a	1.00	AWC <4" to 40"	1.00
		Slopes >15%	1.00	depth of <20"		Slopes >2%	1.00
		Depth to bedrock (soft) <40"	0.96	SAR 0.5-10 to a depth of 40"	0.45	Depth to bedrock (soft) <40"	0.96
Panoza-----	30	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a	0.14	Slopes >2%	1.00
		Surface K-factor >.32; slopes >2%	1.00	depth of 40"		Depth to bedrock (soft) <40"	0.97
		Depth to bedrock (soft) <40"	0.97			AWC from 4-6"	0.71
Hillbrick-----	15	Limitations		Limitations		Limitations	
		Depth to bedrock (hard) <40"	1.00	Bedrock at a	1.00	Depth to bedrock (hard) <40"	1.00
		AWC <4" to 40"	1.00	SAR 0.5-10 to a	0.05	AWC <4" to 40"	1.00
		Slopes >15%	1.00	depth of 40"		Slopes >2%	1.00
511:							
Beam-----	35	Limitations		Limitations		Limitations	
		AWC <4" to 40"	1.00	Bedrock at a	1.00	AWC <4" to 40"	1.00
		Slopes >15%	1.00	depth of <20"		Slopes >2%	1.00
		Depth to bedrock (soft) <40"	0.96	SAR 0.5-10 to a depth of 40"	0.45	Depth to bedrock (soft) <40"	0.96
Panoza-----	30	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a	0.14	Slopes >2%	1.00
		Surface K-factor >.32; slopes >2%	1.00	depth of 40"		Depth to bedrock (soft) <40"	0.97
		Depth to bedrock (soft) <40"	0.97			AWC from 4-6"	0.71
Hillbrick-----	15	Limitations		Limitations		Limitations	
		Depth to bedrock (hard) <40"	1.00	Bedrock at a	1.00	Depth to bedrock (hard) <40"	1.00
		AWC <4" to 40"	1.00	SAR 0.5-10 to a	0.05	AWC <4" to 40"	1.00
		Slopes >15%	1.00	depth of 40"		Slopes >2%	1.00
515:							
Zonap-----	50	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a	0.14	Slopes >2%	1.00
		Depth to bedrock (soft) <40"	0.98	depth of 40"		Depth to bedrock (soft) <40"	0.98
		AWC from 4-6"	0.84			AWC from 4-6"	0.84
Badlands-----	20	Not rated		Not rated		Not rated	
Beam-----	15	Limitations		Limitations		Limitations	
		AWC <4" to 40"	1.00	Bedrock at a	1.00	AWC <4" to 40"	1.00
		Slopes >15%	1.00	depth of <20"		Slopes >2%	1.00
		Depth to bedrock (soft) <40"	0.96	SAR 0.5-10 to a depth of 40"	0.45	Depth to bedrock (soft) <40"	0.96
516:							
Zonap-----	45	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a	0.27	Slopes >2%	1.00
		Depth to bedrock (soft) <40"	0.98	depth of 40"		Depth to bedrock (soft) <40"	0.98
		AWC from 4-6"	0.84			AWC from 4-6"	0.84

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
516: Beam-----	40	Limitations AWC <4" to 40" Slopes >15% Depth to bedrock (soft) <40"	1.00 1.00 0.96	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.45	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.96
530: Tehachapi-----	80	Limitations AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.24 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Fragments (>3") >10% Slopes >2% AWC from 4-6"	1.00 1.00 0.24
531: Tehachapi-----	85	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.24 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Fragments (>3") >10% Slopes >2% AWC from 4-6"	1.00 1.00 0.24
540: Xeric Torriorthents-	50	Limitations AWC <4" to 40" Slopes >15% Depth to bedrock (hard) <40"	1.00 1.00 0.56	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (hard) <40"	1.00 1.00 0.56
Badlands-----	25	Not rated		Not rated		Not rated	
550: Elkhills-----	45	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27
Welport-----	45	Limitations Depth to pan <40" AWC <4" to 40" Slopes 6 to 15%	1.00 1.00 0.78	Limitations Depth to pan <= 20" SAR 0.5-10 to a depth of 40"	1.00 0.27	Limitations Depth to pan <40" AWC <4" to 40" Slopes >2%	1.00 1.00 1.00
560: Laval-----	44	Limitations AWC <4" to 40" Flooding >= frequent in growing season SAR 0.5-10 to a depth of 40"	1.00 1.00 0.14	Limitations Flooding >= frequent in growing season SAR 0.5-10 to a depth of 40"	1.00 0.14	Limitations AWC <4" to 40" Seepage Slopes >2%	1.00 1.00 1.00
Pleitito-----	44	Limitations AWC <4" to 40" Flooding >= frequent in growing season SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05	Limitations Flooding >= frequent in growing season SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations AWC <4" to 40" Slopes >2% Flooding >= frequent in growing season	1.00 1.00 1.00

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
561: Laval-----	45	Limitations AWC <4" to 40" Flooding >= frequent in growing season SAR 0.5-10 to a depth of 40"	1.00 1.00 0.14	Limitations Flooding >= frequent in growing season SAR 0.5-10 to a depth of 40"	1.00 0.14	Limitations Slopes >2% AWC <4" to 40" Seepage	1.00 1.00 1.00
Pleitito-----	45	Limitations AWC <4" to 40" Flooding >= frequent in growing season Slopes 6 to 15%	1.00 1.00 0.40	Limitations Flooding >= frequent in growing season SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations Slopes >2% AWC <4" to 40" Flooding >= frequent in growing season	1.00 1.00 1.00
570: Hillbrick-----	65	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >2%	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
571: Hillbrick-----	65	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >2%	1.00 1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
580: Reward-----	45	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.28 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.28 0.05
Hillbrick-----	45	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >2%	1.00 1.00 1.00
581: Reward-----	85	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.28 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.28 0.05
583: Bellyspring-----	35	Limitations Depth to bedrock (soft) <40" Slopes 6 to 15% SAR 0.5-10 to a depth of 40"	0.91 0.78 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% Depth to bedrock (soft) <40" SAR 0.5-10 to a depth of 40"	1.00 0.91 0.14

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
583: Panoza-----	25	Limitations Surface K-factor >.32; slopes >2% Depth to bedrock (soft) <40" Slopes 6 to 15%	1.00 0.97 0.78	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.97 0.71
584: Bellyspring-----	35	Limitations Slopes >15% Depth to bedrock (soft) <40" SAR 0.5-10 to a depth of 40"	1.00 0.91 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% Depth to bedrock (soft) <40" SAR 0.5-10 to a depth of 40"	1.00 0.91 0.14
Panoza-----	30	Limitations Slopes >15% Surface K-factor >.32; slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.97	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.97 0.71
585: Bellyspring-----	35	Limitations Slopes >15% Depth to bedrock (soft) <40" SAR 0.5-10 to a depth of 40"	1.00 0.91 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% Depth to bedrock (soft) <40" SAR 0.5-10 to a depth of 40"	1.00 0.91 0.14
Panoza-----	30	Limitations Slopes >15% Surface K-factor >.32; slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.97	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.97 0.71
586: Panoza-----	40	Limitations Slopes >15% Surface K-factor >.32; slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.97	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.97 0.71
Beam-----	30	Limitations AWC <4" to 40" Slopes >15% Depth to bedrock (soft) <40"	1.00 1.00 0.96	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.45	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.96
587: Panoza-----	40	Limitations Slopes >15% Surface K-factor >.32; slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.97	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.97 0.71

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
587: Beam-----	30	Limitations AWC <4" to 40" Slopes >15% Depth to bedrock (soft) <40"	1.00 1.00 0.96	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.45	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.96
588: Panoza-----	40	Limitations Slopes >15% Surface K-factor >.32; slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.97	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.97 0.71
Beam-----	30	Limitations AWC <4" to 40" Slopes >15% Depth to bedrock (soft) <40"	1.00 1.00 0.96	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.45	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.96
590: Gorman-----	35	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.01 0.01	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.01 0.01
Typic Xerorthents, mesic-----	30	Limitations Depth to bedrock (soft) <40" Slopes >15% Surface K-factor >.32; slopes >2%	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.45	Limitations Depth to bedrock (soft) <40" Slopes >2% AWC from 4-6"	1.00 1.00 0.64
Xerorthents, shallow	20	Limitations AWC <4" to 40" Slopes >15% Depth to bedrock (soft) <40"	1.00 1.00 0.96	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.65	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.96
591: Geghus-----	40	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.05
Selby-----	40	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >15%	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Depth to bedrock (hard) <40" Fragments (>3") >10% AWC <4" to 40"	1.00 1.00 1.00
600: Positas-----	45	Limitations Surface K-factor >.32; slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.05

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
600: Bitcreek-----	35	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.27
610: Balcom-----	55	Limitations Depth to bedrock (soft) <40" Slopes >15% Surface K-factor >.32; slopes >2%	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Depth to bedrock (soft) <40" Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05
Rock outcrop-----	20	Not rated		Not rated		Not rated	
620: Typic Xerorthents, mesic-----	40	Limitations Depth to bedrock (soft) <40" Slopes >15% Surface K-factor >.32; slopes >2%	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.45	Limitations Depth to bedrock (soft) <40" Slopes >2% AWC from 4-6"	1.00 1.00 0.64
Haploxerepts-----	40	Limitations Slopes >15% AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05
Xerorthents, sandy--	18	Limitations LCOS, COS, S, or LS in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Sand textures in surface WEG 1 or 2 AWC <4" to 40"	1.00 1.00 1.00
640: Bitcreek-----	40	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.27
Dibble-----	30	Limitations Slopes >15% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.91 0.38	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.91 0.38
Eaglerest-----	15	Limitations AWC <4" to 40" Slopes >15% Surface K-factor >.32; slopes >2%	1.00 1.00 1.00	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.27	Limitations AWC <4" to 40" Slopes >2% Fragments (>3") >10%	1.00 1.00 1.00

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
650:							
Lithic Argixerolls--	50	Limitations		Limitations		Limitations	
		Depth to bedrock (hard) <40"	1.00	Bedrock at a depth of <20"	1.00	Depth to bedrock (hard) <40"	1.00
		AWC <4" to 40"	1.00	SAR 0.5-10 to a depth of 40"	0.05	Fragments (>3") >10%	1.00
		Slopes >15%	1.00			AWC <4" to 40"	1.00
Lithic Xerorthents, mesic-----	25	Limitations		Limitations		Limitations	
		Depth to bedrock (hard) <40"	1.00	Bedrock at a depth of <20"	1.00	Depth to bedrock (hard) <40"	1.00
		AWC <4" to 40"	1.00	SAR 0.5-10 to a depth of 40"	0.05	Fragments (>3") >10%	1.00
		Slopes >15%	1.00			AWC <4" to 40"	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
660:							
Elkhills-----	70	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a depth of 40"	0.27	Slopes >2%	1.00
		AWC from 4-6"	0.56			AWC from 4-6"	0.56
		SAR 0.5-10 to a depth of 40"	0.27			SAR 0.5-10 to a depth of 40"	0.27
Legray-----	20	Limitations		Limitations		Limitations	
		AWC <4" to 40"	1.00	SAR 0.5-10 to a depth of 40"	0.27	Fragments (>3") >10%	1.00
		Slopes >15%	1.00	EC 4-8 dS/m	0.25	AWC <4" to 40"	1.00
		SAR 0.5-10 to a depth of 40"	0.27			Slopes >2%	1.00
661:							
Elkhills-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a depth of 40"	0.27	Slopes >2%	1.00
		AWC from 4-6"	0.56			AWC from 4-6"	0.56
		SAR 0.5-10 to a depth of 40"	0.27			SAR 0.5-10 to a depth of 40"	0.27
Legray-----	40	Limitations		Limitations		Limitations	
		AWC <4" to 40"	1.00	SAR 0.5-10 to a depth of 40"	0.27	Fragments (>3") >10%	1.00
		Slopes >15%	1.00	EC 4-8 dS/m	0.25	AWC <4" to 40"	1.00
		SAR 0.5-10 to a depth of 40"	0.27			Slopes >2%	1.00
670:							
Harrisranch-----	60	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a depth of 40"	0.05	Slopes >2%	1.00
		AWC from 4-6"	0.38			AWC from 4-6"	0.38
		SAR 0.5-10 to a depth of 40"	0.05			SAR 0.5-10 to a depth of 40"	0.05
Rock outcrop-----	20	Not rated		Not rated		Not rated	
680:							
Milham-----	90	Limitations		Limitations		Limitations	
		AWC from 4-6"	0.25	SAR 0.5-10 to a depth of 40"	0.05	Slopes >2%	1.00
		SAR 0.5-10 to a depth of 40"	0.05			AWC from 4-6"	0.25
						SAR 0.5-10 to a depth of 40"	0.05

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
690: Dibble-----	45	Limitations Slopes >15% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.91 0.38	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% Depth to bedrock (soft) <40" AWC from 4-6"	1.00 0.91 0.38
Geghus-----	40	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.05
700: Xerolls, loamy- skeletal-----	55	Limitations Slopes >15% AWC <4" to 40" Fragments (>3") >25%	1.00 1.00 0.50	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Fragments (>3") >10% Slopes >2% AWC <4" to 40"	1.00 1.00 1.00
Los Gatos-----	30	Limitations Depth to bedrock (hard) <40" Slopes >15% Surface K-factor >.32; slopes >2%	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Depth to bedrock (hard) <40" Slopes >2% AWC <4" to 40"	1.00 1.00 1.00
720: Friant-----	50	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >2%	1.00 1.00 1.00
Geghus-----	20	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.05
Lithic Xerorthents, thermic-----	20	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >2%	1.00 1.00 1.00
724: Elkhills-----	90	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27
725: Sodic Haplocambids thick-----	85	Not rated		Not rated		Not rated	
726: Sodic Haplocambids, thick-----	90	Not rated		Not rated		Not rated	

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
727: Sodic Haplocambids, thick-----	90	Not rated		Not rated		Not rated	
728: Torriorthents, very thin-----	85	Limitations SAR >10 to a depth of 40" Depth to bedrock (soft) <40" EC >8 dS/m	1.00 1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" Depth to bedrock (soft) <40" EC >8 dS/m	1.00 1.00 1.00
729: Sodic Haplocambids, thick-----	40	Not rated		Not rated		Not rated	
Torriorthents, thin-	30	Limitations SAR >10 to a depth of 40" EC >8 dS/m Slopes >15%	1.00 1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m Slopes >2%	1.00 1.00 1.00
Torriorthents, very thin, eroded--	15	Limitations SAR >10 to a depth of 40" Depth to bedrock (soft) <40" EC >8 dS/m	1.00 1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" Depth to bedrock (soft) <40" EC >8 dS/m	1.00 1.00 1.00
730: Haplocambids, thick-	50	Limitations Surface K-factor >.32; slopes >2% SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations Slopes >2% SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00 1.00
Elkhills-----	30	Limitations Slopes 6 to 15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	0.78 0.56 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27
731: Haplocambids, thick-	45	Limitations Slopes >15% Surface K-factor >.32; slopes >2% SAR >10 to a depth of 40"	1.00 1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations Slopes >2% SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00 1.00
Elkhills-----	40	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
732: Elkhills-----	50	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27
Haplocambids, thick-	40	Limitations Slopes >15% Surface K-factor >.32; slopes >2% SAR >10 to a depth of 40"	1.00 1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations Slopes >2% SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00 1.00
733: Sodic Haplocambids, thick-----	50	Not rated		Not rated		Not rated	
Torriorthents, thin-	35	Limitations SAR >10 to a depth of 40" EC >8 dS/m Slopes >15%	1.00 1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m Slopes >2%	1.00 1.00 1.00
734: Sodic Haplocambids, thick-----	40	Not rated		Not rated		Not rated	
Torriorthents, very thin, eroded-----	25	Limitations SAR >10 to a depth of 40" Depth to bedrock (soft) <40" EC >8 dS/m	1.00 1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" Depth to bedrock (soft) <40" EC >8 dS/m	1.00 1.00 1.00
Elkhills-----	24	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27
735: Sodic Haplocambids, thick-----	40	Not rated		Not rated		Not rated	
Elkhills-----	25	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.56 0.27
Torriorthents, thin-	20	Limitations SAR >10 to a depth of 40" EC >8 dS/m Slopes >15%	1.00 1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m	1.00 1.00	Limitations SAR >10 to a depth of 40" EC >8 dS/m Slopes >2%	1.00 1.00 1.00

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
750: Ballinger-----	85	Limitations		Limitations		Limitations	
		Depth to bedrock (soft) <40"	1.00	EC >8 dS/m	1.00	Depth to bedrock (soft) <40"	1.00
		Slopes >15%	1.00	SAR 0.5-10 to a depth of 40"	0.45	Slopes >2%	1.00
		AWC <4" to 40"	1.00			AWC <4" to 40"	1.00
760: Ballinger-----	85	Limitations		Limitations		Limitations	
		Depth to bedrock (soft) <40"	1.00	EC >8 dS/m	1.00	Depth to bedrock (soft) <40"	1.00
		Slopes >15%	1.00	SAR 0.5-10 to a depth of 40"	0.45	Slopes >2%	1.00
		AWC <4" to 40"	1.00			AWC <4" to 40"	1.00
780: Stutzville-----	85	Limitations		Limitations		Limitations	
		EC >8 dS/m	1.00	EC >8 dS/m	1.00	EC >8 dS/m	1.00
		SAR >10 to a depth of 40"	1.00	SAR >10 to a depth of 40"	1.00	SAR >10 to a depth of 40"	1.00
		AWC from 4-6"	0.40			AWC from 4-6"	0.40
850: Xerofluvents-----	85	Limitations		Limitations		Limitations	
		AWC <4" to 40"	1.00	Flooding >=	1.00	AWC <4" to 40"	1.00
		Flooding >=	1.00	frequent in		Seepage	1.00
		frequent in		growing season		Flooding >=	1.00
		growing season		SAR 0.5-10 to a	0.14	frequent in	
		SAR 0.5-10 to a depth of 40"	0.14	depth of 40"		growing season	
860: Hawk-----	90	Limitations		Limitations		Limitations	
		AWC <4" to 40"	1.00	SAR 0.5-10 to a	0.01	Slopes >2%	1.00
		Slopes 6 to 15%	0.78	depth of 40"		AWC <4" to 40"	1.00
		SAR 0.5-10 to a depth of 40"	0.01			SAR 0.5-10 to a depth of 40"	0.01
870: Frazier-----	80	Limitations		Limitations		Limitations	
		Depth to bedrock (hard) <40"	1.00	SAR 0.5-10 to a	0.05	Depth to bedrock (hard) <40"	1.00
		AWC <4" to 40"	1.00	depth of 40"		AWC <4" to 40"	1.00
		Slopes >15%	1.00			Slopes >2%	1.00
880: Chuchupate-----	90	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a	0.01	Slopes >2%	1.00
		AWC <4" to 40"	1.00	depth of 40"		AWC <4" to 40"	1.00
		Depth to bedrock (hard) <40"	0.99			Depth to bedrock (hard) <40"	0.99
890: Gorman-----	90	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a	0.01	Slopes >2%	1.00
		AWC from 4-6"	0.01	depth of 40"		AWC from 4-6"	0.01
		SAR 0.5-10 to a depth of 40"	0.01			SAR 0.5-10 to a depth of 40"	0.01

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
919:							
Zonap-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a	0.27	Slopes >2%	1.00
		Depth to bedrock (soft) <40"	0.98	depth of 40"		Depth to bedrock (soft) <40"	0.98
		AWC from 4-6"	0.84			AWC from 4-6"	0.84
Harrisranch-----	30	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a	0.05	Slopes >2%	1.00
		AWC from 4-6"	0.38	depth of 40"		AWC from 4-6"	0.38
		SAR 0.5-10 to a	0.05	depth of 40"		SAR 0.5-10 to a	0.05
		depth of 40"				depth of 40"	
Beam-----	15	Limitations		Limitations		Limitations	
		AWC <4" to 40"	1.00	Bedrock at a	1.00	AWC <4" to 40"	1.00
		Slopes >15%	1.00	depth of <20"		Slopes >2%	1.00
		Depth to bedrock (soft) <40"	0.96			Depth to bedrock (soft) <40"	0.96
930:							
Bitcreek-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a	0.27	Slopes >2%	1.00
		SAR 0.5-10 to a	0.27	depth of 40"		SAR 0.5-10 to a	0.27
		depth of 40"				depth of 40"	
Shimmon-----	25	Limitations		Limitations		Limitations	
		AWC <4" to 40"	1.00	SAR 0.5-10 to a	0.14	Slopes >2%	1.00
		Slopes >15%	1.00	depth of 40"		AWC <4" to 40"	1.00
		Depth to bedrock (soft) <40"	0.97			Depth to bedrock (soft) <40"	0.97
Balhud-----	15	Limitations		Limitations		Limitations	
		Depth to bedrock (hard) <40"	1.00	Bedrock at a	1.00	Depth to bedrock (hard) <40"	1.00
		AWC <4" to 40"	1.00	depth of <20"		AWC <4" to 40"	1.00
		Surface K-factor >.32; slopes >2%	1.00	SAR 0.5-10 to a	0.05	Slopes >2%	1.00
				depth of 40"			
932:							
Bitcreek-----	40	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a	0.27	Slopes >2%	1.00
		SAR 0.5-10 to a	0.27	depth of 40"		SAR 0.5-10 to a	0.27
		depth of 40"				depth of 40"	
Shimmon-----	25	Limitations		Limitations		Limitations	
		Slopes >15%	1.00	SAR 0.5-10 to a	0.14	Slopes >2%	1.00
		AWC <4" to 40"	1.00	depth of 40"		AWC <4" to 40"	1.00
		Depth to bedrock (soft) <40"	0.97			Depth to bedrock (soft) <40"	0.97
Balhud-----	20	Limitations		Limitations		Limitations	
		Depth to bedrock (hard) <40"	1.00	Bedrock at a	1.00	Depth to bedrock (hard) <40"	1.00
		AWC <4" to 40"	1.00	depth of <20"		AWC <4" to 40"	1.00
		Slopes >15%	1.00	SAR 0.5-10 to a	0.05	Slopes >2%	1.00
				depth of 40"			
940:							
Bitcreek-----	90	Limitations		Limitations		Limitations	
		SAR 0.5-10 to a	0.27	SAR 0.5-10 to a	0.27	Slopes >2%	1.00
		depth of 40"		depth of 40"		SAR 0.5-10 to a	0.27
						depth of 40"	

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
950: Pleito-----	40	Limitations Slopes >15% AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC <4" to 40" SAR 0.5-10 to a depth of 40"	1.00 1.00 0.05
Ballinger-----	25	Limitations Slopes >15% EC >8 dS/m Depth to bedrock (soft) <40"	1.00 1.00 0.99	Limitations EC >8 dS/m SAR 0.5-10 to a depth of 40"	1.00 0.45	Limitations Slopes >2% EC >8 dS/m Depth to bedrock (soft) <40"	1.00 1.00 0.99
Balhud-----	20	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >15%	1.00 1.00 1.00	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >2%	1.00 1.00 1.00
951: Bitcreek-----	40	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.27
Balhud-----	30	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Surface K-factor >.32; slopes >2%	1.00 1.00 1.00	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations Depth to bedrock (hard) <40" AWC <4" to 40" Slopes >2%	1.00 1.00 1.00
Ballinger-----	15	Limitations EC >8 dS/m Slopes >15% Depth to bedrock (soft) <40"	1.00 1.00 0.99	Limitations EC >8 dS/m SAR 0.5-10 to a depth of 40"	1.00 0.45	Limitations Slopes >2% EC >8 dS/m Depth to bedrock (soft) <40"	1.00 1.00 0.99
954: Typic Haploxeralfs, fine-----	50	Limitations Slopes >15% AWC <4" to 40" Permeability <=.2"/hr and not smectitic mineralogy	1.00 1.00 1.00	Limitations Permeability <=.2"/hr and not smectitic mineralogy SAR 0.5-10 to a depth of 40"	1.00 0.05	Limitations Slopes >2% AWC <4" to 40" Permeability <=.2"/hr and not smectitic mineralogy	1.00 1.00 1.00
Haploxerolls, coarse-loamy-----	30	Limitations Depth to bedrock (hard) <40" Slopes >15% AWC <4" to 40"	1.00 1.00 1.00	Limitations SAR 0.5-10 to a depth of 40"	0.01	Limitations Depth to bedrock (hard) <40" Slopes >2% AWC <4" to 40"	1.00 1.00
955: Calcic Haploxerepts-	30	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.14	Limitations SAR 0.5-10 to a depth of 40"	0.14	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.14

Soil Survey of Kern County, California, Southwest Part

Table 16b.--Water Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Sprinkler irrigation		Drip or trickle irrigation		Furrow irrigation	
		Limitations	Value	Limitations	Value	Limitations	Value
955: Xerorthents, shallow	25	Limitations AWC <4" to 40" Slopes >15% Depth to bedrock (soft) <40"	1.00 1.00 0.96	Limitations Bedrock at a depth of <20" SAR 0.5-10 to a depth of 40"	1.00 0.14	Limitations AWC <4" to 40" Slopes >2% Depth to bedrock (soft) <40"	1.00 1.00 0.96
Badlands-----	20	Not rated		Not rated		Not rated	
970: Harrisranch-----	50	Limitations Slopes >15% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.38 0.05	Limitations SAR 0.5-10 to a depth of 40"	0.05	Limitations Slopes >2% AWC from 4-6" SAR 0.5-10 to a depth of 40"	1.00 0.38 0.05
Bitcreek-----	35	Limitations Slopes >15% SAR 0.5-10 to a depth of 40"	1.00 0.27	Limitations SAR 0.5-10 to a depth of 40"	0.27	Limitations Slopes >2% SAR 0.5-10 to a depth of 40"	1.00 0.27
980: Area not surveyed, access denied-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Textures are abbreviated as: C--clay, CL--clay loam, COS--coarse sand, COSL--coarse sandy loam, FS--fine sand, FSL--fine sandy loam, L--loam, LCOS--loamy coarse sand, LFS--loamy fine sand, LS--loamy sand, LVFS--loamy very fine sand, S--sand, SC--sandy clay, SCL--sandy clay loam, SI--silt, SIC--silty clay, SICL--silty clay loam, SIL--silt loam, SL--sandy loam, VFS--very fine sand, and VFSL--very fine sandy loam.

The interpretation for sprinkler irrigation evaluates the following soil properties and characteristics: surface texture, content of clay greater than 60 percent, flooding during the growing season, ponding, depth to wetness, available water capacity (AWC), slope, depth to hard or soft bedrock, depth to a cemented pan, fragments greater than 75 millimeters in size, sodium content (SAR), pH, clayey or sandy textures, soil erodibility expressed as a K-factor, electrical conductivity (EC), sodium content expressed as sodium adsorption ratio (SAR), sulfur content based on taxonomic classification, and permeability that is less than 0.5 cm/hr, resulting in saturated soil conditions.

The interpretation for drip or trickle irrigation evaluates the following soil properties and characteristics: flooding, ponding, depth to wetness, depth to hard or soft bedrock, depth to a cemented pan, electrical conductivity (EC), sodium content expressed as sodium adsorption ratio (SAR), sulfur content based on taxonomic classification, and permeability less than 0.5 cm/hr.

The interpretation for furrow irrigation evaluates the following soil properties and characteristics: surface texture; content of clay; smectitic mineralogy; flooding during the growing season; ponding; depth to wetness; available water capacity (AWC); slope; depth to soft bedrock; depth to a cemented pan; fragments greater than 75 millimeters in size; sodium content (SAR); pH; clayey or sandy textures; permeability less than 0.5 cm/hr, resulting in saturated soil conditions; permeability greater than 15 cm/hr, resulting in seepage; electrical conductivity (EC); sodium content expressed as sodium adsorption ratio (SAR); and sulfur content based on taxonomic classification.

Table 17.--Engineering Properties

[Absence of an entry indicates that the data were not estimated. Abbreviations used in the "USDA texture" column are described in table 18]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
101: Bakersfield, drained-----	0-3	FSL	SC, SM	A-4, A-2-4, A-6	0	0	100	95-100	78-95	29-43	18-33	2-11
	3-10	FSL	SM, SC	A-2-4, A-6, A-4	0	0	100	95-100	78-95	29-43	18-30	2-11
	10-16	FSL	SM, SC	A-2-4, A-6, A-4	0	0	100	95-100	77-94	27-42	18-30	2-15
	16-29	SR: S to L	SC-SM, SM, SC	A-2-4, A-4, A-6	0	0	100	95-100	64-82	27-44	0-29	NP-12
	29-45	SR: S to L	SM, CL	A-6, A-4	0	0	100	95-100	71-90	37-54	0-28	NP-12
	45-51	L	CL-ML, CL	A-6, A-4	0	0	100	95-100	75-92	53-69	22-35	7-17
	51-58	SR: SL to SIL	CL	A-6	0	0	100	95-100	87-100	80-93	28-36	12-18
	58-66	SR: S to L	SM	A-2-4	0	0	100	95-100	89-97	17-21	0-16	NP-2
102: Bakersfield, partially drained-----	0-3	SL	SC, SM	A-2-4, A-4, A-6	0	0	100	95-100	78-95	29-43	18-33	2-11
	3-10	FSL	SM, SC	A-2-4, A-6, A-4	0	0	100	95-100	78-95	29-43	18-30	2-11
	10-16	FSL	SM, SC	A-2-4, A-6, A-4	0	0	100	95-100	77-94	27-42	18-30	2-15
	16-29	SR: S to L	SM, SC, SC-SM	A-2-4, A-4, A-6	0	0	100	95-100	64-82	27-44	0-29	NP-12
	29-45	SR: S to L	SM, CL	A-6, A-4	0	0	100	95-100	71-90	37-54	0-28	NP-12
	45-51	L	CL-ML, CL	A-6, A-4	0	0	100	95-100	75-92	53-69	22-35	7-17
	51-58	SR: SL to SIL	CL	A-6	0	0	100	95-100	87-100	80-93	28-36	12-18
	58-66	SR: S to L	SM	A-2-4	0	0	100	95-100	89-97	17-21	0-16	NP-2
110: Buttonwillow, partially drained-----	0-8	C	CL, CH	A-7-6	0	0	100	100	83-98	71-86	46-62	28-39
	8-24	C	CL, CH	A-7-6	0	0	100	100	84-99	72-87	48-64	28-39
	24-30	C	CH, CL	A-7-6	0	0	100	100	91-100	74-89	47-62	28-39
	30-36	SR: S to FSL	SC-SM, SC	A-6, A-2-4, A-4	0	0	100	100	69-82	31-44	21-30	6-12
	36-43	SR: S to FSL	SC-SM, SM	A-2-4	0	0	100	100	92-97	27-32	17-23	2-6
	43-60	SICL, SIL	CL	A-7-6, A-6	0	0	100	100	84-99	73-88	36-49	18-28
	60-67	SICL, SIL	CL	A-7-6, A-6	0	0	100	100	82-97	72-87	36-49	18-28
	67-70	SIL	CL, CL-ML	A-4, A-6	0	0	100	100	86-96	70-80	21-32	6-13

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Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In											
120: Granoso-----	0-10	SL, LS	SM, SC-SM	A-2-4	0	0-1	85-100	85-100	63-83	17-28	17-26	1-7
	10-20	SL, LS	SC-SM, SM	A-2-4	0	0-1	85-100	85-100	65-84	17-28	16-25	1-7
	20-36	S, LS, FS	SC-SM, SP-SM, SM	A-2-4	0	0-1	85-100	85-100	66-86	9-19	16-24	1-7
	36-62	LS, FS, S	SC-SM, SP-SM	A-2-4	0	0-1	85-100	85-100	65-85	8-17	16-24	1-7
121: Granoso-----	0-10	SL, LS	SC-SM, SM	A-2-4	0	0-1	85-100	85-100	63-83	17-28	17-26	1-7
	10-20	SL, LS	SC-SM, SM	A-2-4	0	0-1	85-100	85-100	65-84	17-28	16-25	1-7
	20-36	LS, S, FS	SC-SM, SM	A-2-4, A-4	0	0-1	85-100	85-100	66-86	24-37	16-24	1-7
	36-62	FS, S, LS	SC-SM, SP-SM	A-2-4	0	0-1	85-100	85-100	65-85	8-17	16-24	1-7
122: Granoso, loamy substratum	0-10	SL, LS	SC-SM, SM	A-2-4	0	0-1	85-100	85-100	63-83	17-28	17-26	1-7
	10-20	LS, SL	SC-SM, SM	A-2-4	0	0-1	85-100	85-100	65-84	17-28	16-25	1-7
	20-36	LS, FS, S	SC-SM, SP-SM, SM	A-2-4	0	0-1	85-100	85-100	66-86	9-19	16-24	1-7
	36-62	SR: SL to SIL	ML, CL-ML	A-4	0	0-1	85-100	85-100	77-99	59-78	16-24	1-7
123: Granoso-----	0-10	LS, SL	SC-SM, SM	A-2-4, A-4	0	0-1	85-100	85-100	61-79	29-42	17-26	1-7
	10-20	SL, LS	SC-SM, SM	A-2-4	0	0-1	85-100	85-100	65-84	17-28	16-25	1-7
	20-36	LS, S, FS	SC-SM, SP-SM, SM	A-2-4	0	0-1	85-100	85-100	66-86	9-19	16-24	1-7
	36-62	FS, S, LS	SC-SM, SP-SM	A-2-4	0	0-1	85-100	85-100	65-85	8-17	16-24	1-7
124: Granoso-----	0-10	GR-SL, GR-LS, LS, SL	SC-SM, SM	A-2-4, A-1-b	0	0-1	66-85	65-85	48-70	13-23	17-26	1-7
	10-20	GR-SL, GR-LS	SC-SM, SP-SM	A-1-b, A-2-4	0	0-1	60-85	59-85	45-71	12-24	16-25	1-7
	20-36	GR-LS, GR-FS, GR-S	SC-SM, SM	A-1-b, A-2-4	0	0-1	60-85	59-85	46-72	17-31	16-24	1-7
	36-62	GR-S, GR-FS, GR-LS	SC-SM, SP-SM	A-1-b, A-2-4	0	0-1	60-85	59-85	45-72	6-15	16-24	1-7
130: Cerini-----	0-10	L, SL	SC-SM, SC	A-4, A-2-4, A-6	0	0	100	100	73-81	35-43	23-31	6-12
	10-17	CL, L	CL	A-6, A-7-6	0	0	100	100	87-100	64-84	31-50	13-28
	17-24	CL, L	CL	A-6, A-7-6	0	0	100	100	88-100	64-84	30-50	13-28
	24-47	SR: FSL to SICL	CL-ML, CL	A-7-6, A-4	0	0	100	100	82-100	57-87	21-50	6-28
	47-69	SR: SL to SCL	CL-ML, CL	A-6, A-4	0	0	100	100	83-93	58-68	20-32	4-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
131:												
Calflax-----	0-6	FSL, CL, L	SC, SC-SM	A-4, A-6	0	0	100	100	91-95	39-43	25-33	9-12
	6-21	SR: CL to SICL	CL	A-6, A-7-6	0	0	100	100	91-100	66-79	36-50	18-28
	21-30	SR: CL to SICL	CL	A-6, A-7-6	0	0	100	100	96-100	86-99	36-50	18-28
	30-37	SR: CL to SICL	CH, CL	A-6, A-7-6	0	0	100	100	98-100	87-100	37-51	19-29
	37-46	SR: SL to L	SC, SC-SM	A-4, A-6	0	0	100	100	79-87	41-49	22-31	6-12
	46-52	SR: SL to L	CL, CL-ML	A-6, A-4	0	0	100	100	83-98	58-73	21-36	6-17
	52-60	SR: SL to L	CL, CL-ML	A-4, A-6	0	0	97-100	91-100	80-98	57-73	22-37	6-18
132:												
Cerini-----	0-10	CL, L	CL, CH	A-6, A-7-6	0	0	100	100	86-100	63-83	31-50	13-28
	10-17	CL, L	CH, CL	A-6, A-7-6	0	0	100	100	87-100	64-84	31-50	13-28
	17-24	CL, L	CL	A-6, A-7-6	0	0	100	100	88-100	64-84	30-50	13-28
	24-47	SR: FSL to SICL	CL-ML, CL	A-7-6, A-4	0	0	100	100	82-100	57-87	21-50	6-28
	47-69	SR: SL to SCL	CL, CL-ML	A-6, A-4	0	0	100	100	83-93	58-68	20-32	4-12
133:												
Calflax-----	0-6	L	CL	A-7-6, A-6, A-4	0	0	100	100	85-94	61-70	28-41	10-17
	6-21	SR: CL to SICL	CL, CH	A-6, A-7-6	0	0	100	100	86-99	66-79	37-51	19-29
	21-30	SR: CL to SICL	CL, CH	A-6, A-7-6	0	0	100	100	88-100	69-82	37-51	19-29
	30-37	SR: CL to SICL	CH, CL	A-6, A-7-6	0	0	100	100	90-100	70-83	38-51	19-29
	37-46	SL	SC, SC-SM	A-4, A-6	0	0	100	100	74-82	36-44	20-29	6-12
	46-52	L	CL, CL-ML	A-6, A-4	0	0	100	100	83-98	58-73	20-35	6-17
	52-60	L	CL, CL-ML	A-4, A-6	0	0	97-100	91-100	80-98	57-73	20-35	6-17
134:												
Cerini-----	0-10	CL, L	CH, CL	A-6, A-7-6	0	0	100	100	86-100	63-83	31-50	13-28
	10-17	CL, L	CL, CH	A-6, A-7-6	0	0	100	100	87-100	64-84	31-50	13-28
	17-24	CL, L	CL	A-6, A-7-6	0	0	100	100	88-100	64-84	30-50	13-28
	24-47	SR: FSL to SICL	CL, CL-ML	A-7-6, A-4	0	0	100	100	82-100	57-87	21-50	6-28
	47-69	SR: SL to SCL	CL-ML, CL	A-6, A-4	0	0	100	100	83-93	58-68	20-32	4-12
140:												
Copus silty clay, partially drained-----	0-5	SIC, C	CH, MH	A-7-6, A-7-5	0	0	100	100	89-100	86-100	56-80	29-43
	5-17	SIC, C	CH, MH	A-7-6, A-7-5	0	0	100	100	89-100	86-100	56-80	29-43
	17-23	SICL, C	CH	A-7-6, A-7-5	0	0	100	100	71-100	64-100	51-86	24-51
	23-39	SICL, C	CH, CL	A-7-6, A-7-5	0	0	100	100	71-100	64-100	49-84	24-51
	39-51	SICL, C	CH, CL	A-7-6	0	0	100	100	68-100	60-100	46-72	24-44
	51-60	C, SICL	CH, CL	A-7-6, A-7-5	0	0	100	100	72-100	65-100	48-82	25-51

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
141: Copus clay, partially drained-----	0-5	C, SIC	CH, MH	A-7-5, A-7-6	0	0	100	100	79-100	78-100	56-84	29-47
	5-17	C, SIC	CH, MH	A-7-6, A-7-5	0	0	100	100	79-100	78-100	56-84	29-47
	17-23	C, SIC	CH	A-7-6, A-7-5	0	0	100	100	89-100	88-100	65-86	36-51
	23-39	C, SIC	CH	A-7-6, A-7-5	0	0	100	100	89-100	88-100	63-84	36-51
	39-51	SIC, C	CH	A-7-6	0	0	100	100	82-100	71-91	52-72	29-44
	51-60	SICL, SIC, C	CH, CL	A-7-6, A-7-5	0	0	100	100	74-100	73-100	48-82	25-51
150: Excelsior-----	0-8	SL, L	CL, CL-ML, ML	A-6, A-4	0	0	100	100	88-100	52-65	18-31	2-12
	8-19	FSL, L	CL, CL-ML, ML	A-4, A-6	0	0	100	100	82-95	53-66	17-30	2-12
	19-25	FSL, SL	CL, CL-ML, SM	A-4, A-6	0	0	100	100	74-87	46-59	17-30	2-12
	25-36	SR: LFS to SIL	CL, CL-ML, ML	A-4, A-6	0	0	100	100	81-94	51-64	17-30	2-12
	36-41	FSL	SC, SC-SM	A-4, A-6	0	0	100	100	91-97	38-44	24-33	7-12
	41-48	SR: LFS to SIL	CL-ML, ML	A-4	0	0	100	100	95-100	54-59	0-21	1-4
	48-62	SR: LS to SIL	CL, CL-ML, ML	A-6, A-4	0	0	100	100	81-94	52-65	17-30	2-12
151: Excelsior, saline-sodic--	0-8	FSL, L, SL	CL, CL-ML, ML	A-4, A-6	0	0	100	100	81-94	50-63	18-31	2-12
	8-19	L, FSL, SL	CL, CL-ML, ML	A-4, A-6	0	0	100	100	82-95	53-66	17-30	2-12
	19-25	FSL, SL	CL, CL-ML, SM	A-4, A-6	0	0	100	100	74-87	46-59	17-30	2-12
	25-36	SR: FSL to SIL	CL, CL-ML, ML	A-4, A-6	0	0	100	100	81-94	51-64	17-30	2-12
	36-41	FSL	SC, SC-SM	A-4, A-6	0	0	100	100	91-97	38-44	24-33	7-12
	41-48	SR: LFS to SIL	CL-ML, ML	A-4	0	0	100	100	95-100	54-59	0-21	1-4
	48-62	SR: LFS to SIL	CL, CL-ML, ML	A-6, A-4	0	0	100	100	81-94	52-65	17-30	2-12
152: Excelsior-----	0-8	L, SL	CL, ML, CL-ML	A-4, A-6	0	0	100	100	80-93	51-64	18-31	2-12
	8-19	L, FSL	CL, CL-ML, ML	A-4, A-6	0	0	100	100	81-94	53-66	17-30	2-12
	19-25	SL, FSL	CL, CL-ML, ML	A-4, A-6	0	0	100	100	74-87	46-59	17-30	2-12
	25-36	SR: FSL to SIL	CL, CL-ML	A-4, A-6	0	0	100	100	81-94	51-64	17-30	2-12
	36-41	FSL	SC-SM, SC	A-4, A-6	0	0	100	100	91-97	38-44	24-33	7-12
	41-48	SR: LFS to SIL	CL-ML, ML	A-4	0	0	100	100	95-100	54-59	0-21	1-4
	48-62	SR: LFS to SIL	CL, CL-ML, ML	A-6, A-4	0	0	100	100	81-94	52-65	17-30	2-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
153: Tupman-----	0-6	GRV-SL, GR-SL	GC-GM, SC	A-1-b, A-2-6, A-2-4	0	0	53-74	47-70	34-56	16-30	22-32	6-12
	6-14	SL, GR-SL	SC, SC-SM	A-2-4, A-6, A-1-b	0	0	74-86	70-84	50-67	24-36	21-31	6-12
	14-30	SR: GRV-COS to GR-SIL	GW-GM, SC, GC-GM	A-2-4, A-2-6, A-1-a	0	0	44-73	36-69	20-47	10-29	17-31	2-12
	30-37	SR: SL to L	SC-SM, SM, SC	A-2-4, A-6	0	0	73-92	69-91	51-79	24-44	16-29	2-12
	37-48	GR-SL, SL	SC-SM, SC, SM	A-4, A-2-4	0	0	79-100	77-100	57-83	27-44	17-26	2-9
	48-60	GRV-LS, GR-LS	SC-SM, SC, GP-GM	A-1-b, A-2-4	0	0	54-80	48-77	37-67	10-23	16-26	2-9
154: Tupman-----	0-6	GRV-SL, GR-SL	GC-GM, SC	A-1-b, A-2-6, A-2-4	0	0	53-74	47-70	34-56	16-30	22-32	6-12
	6-14	GR-SL, SL	SC-SM, SC	A-2-4, A-6, A-1-b	0	0	74-86	70-84	50-67	24-36	21-31	6-12
	14-30	SR: GRV-COS to GR-SIL	GW-GM, GC-GM, SC	A-2-4, A-2-6, A-1-a	0	0	44-73	36-69	20-47	10-29	17-31	2-12
	30-37	SR: SL to L	SC, SC-SM, SM	A-2-4, A-6	0	0	73-92	69-91	51-79	24-44	16-29	2-12
	37-48	GR-SL, SL	SC-SM, SM, SC	A-4, A-2-4	0	0	79-100	77-100	57-83	27-44	17-26	2-9
	48-60	GR-LS, GRV-LS	SC, GP-GM, SC-SM	A-1-b, A-2-4	0	0	54-80	48-77	37-67	10-23	16-26	2-9
Urban land.												
160: Fages-----	0-7	C, SIC	CH	A-7-6	0	0	100	100	90-100	73-88	50-66	29-40
	7-22	C, SIC	CH	A-7-6	0	0	100	100	85-100	73-88	50-66	29-40
	22-30	C, SIC	CH	A-7-6	0	0	100	100	84-99	72-87	52-67	29-41
	30-48	C, SIC	CH	A-7-6	0	0	100	100	82-97	70-85	52-67	29-41
	48-56	SIC, C	CL-ML, CL, CH	A-4, A-7-6	0	0	100	100	65-100	60-100	19-62	4-39
	56-58	L	CL, CH, CL-ML	A-6, A-7-6, A-4	0	0	100	100	73-100	51-98	21-63	4-40
	58-65	CL	CH, SC-SM	A-7-6, A-4	0	0	100	100	65-100	45-92	22-66	5-41

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
179: Padres-----	0-3	GR-FSL, FSL, GR-SL, SL	SC, SC-SM	A-6, A-2-4	0	0-5	77-100	76-100	55-82	26-44	20-31	4-12
	3-16	SL, FSL, GR- FSL, GR-SL	SC-SM, SC	A-2-4, A-6	0	0-5	77-100	76-100	55-82	26-44	19-30	4-12
	16-30	GRV-COSL, GR- COSL, GR-FSL, GRV-L, GR-L, GRV-SL, GR-SL, GRV-FSL	GC-GM, SC	A-2-4, A-2-6, A-1-b	0	0-4	54-78	52-77	30-52	16-32	19-29	4-12
	30-38	GR-L, L, COSL, GR-COSL, SL, GR-SL, FSL, GR-FSL	CL, SC-SM	A-4, A-6	0	0-5	77-100	76-100	61-91	42-66	19-29	4-12
	38-46	GR-SL, GR-L, GR-FSL, SL, FSL, L, COSL, GR-COSL	SC-SM, SC	A-2-4, A-6	0	0-5	77-100	76-100	55-82	26-44	19-29	4-12
	46-62	GRV-L, GR-SL, GR-L, GRV- COSL, GR-COSL, GR-FSL, GRV- SL, GRV-FSL	GC-GM, SC	A-2-6, A-2-4, A-1-b	0	0-4	54-78	52-77	30-52	16-32	19-29	4-12
180: Garces-----	0-7	SL, L	CL	A-7-6, A-4, A-6	0	0	100	100	80-92	58-70	28-41	10-19
	7-14	CL	CL, CH	A-6, A-7-6	0	0	100	100	89-100	70-82	38-51	19-29
	14-24	L, SCL, CL	CH, CL	A-4, A-7-6	0	0	100	100	73-98	53-78	27-51	10-29
	24-37	L, CL, SCL	CL	A-4, A-7-6	0	0	100	100	87-100	62-87	25-48	9-28
	37-55	L, FSL, SL	SC, SC-SM	A-4, A-6	0	0	100	100	89-99	36-46	21-31	6-13
	55-64	L, SL, FSL	SC, SC-SM	A-4, A-6	0	0	100	100	91-100	37-47	21-31	6-13

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
190: Guijarral-----	0-1	SL	SC-SM, SC	A-2-4, A-6, A-4	0	0	92-100	92-100	64-79	30-43	21-32	4-12
	1-4	SL	SC-SM, SC	A-4, A-6, A- 2-4	0	0	92-100	92-100	69-85	35-48	20-31	4-12
	4-16	SL	SC-SM, SC	A-4, A-6, A- 2-4	0	0	92-100	92-100	69-85	35-48	20-30	4-12
	16-29	GR-SL	SC, GC-GM	A-2-4, A-2-6, A-1-b	0	0	59-78	58-77	41-62	19-33	20-30	4-12
	29-40	GR-SL	SC-SM, GC-GM, SC	A-2-4, A-6, A-1-b	0	0	59-78	58-77	44-66	22-37	19-30	4-12
	40-46	GR-SL	SC-SM, GC-GM, SC	A-2-4, A-1-b, A-6	0	0	59-78	58-77	44-66	22-37	19-29	4-12
	46-51	GRV-SL	GC, GW-GC	A-1-a, A-2-4, A-2-6	0	0	35-54	32-52	23-42	11-22	19-29	4-12
	51-60	GRV-SL	GW-GC, GC	A-2-4, A-1-a, A-2-6	0	0	35-54	32-52	23-42	11-22	19-29	4-12
191: Guijarral-----	0-1	SL	SC-SM, SC	A-2-4, A-4, A-6	0	0	92-100	92-100	64-79	30-43	21-32	4-12
	1-4	SL	SC-SM, SC	A-4, A-6, A- 2-4	0	0	92-100	92-100	69-85	35-48	20-31	4-12
	4-16	SL	SC, SC-SM	A-4, A-6, A- 2-4	0	0	92-100	92-100	69-85	35-48	20-30	4-12
	16-29	GR-SL	GC-GM, SC	A-2-4, A-2-6, A-1-b	0	0	59-78	58-77	41-62	19-33	20-30	4-12
	29-40	GR-SL	SC-SM, GC-GM, SC	A-2-4, A-6, A-1-b	0	0	59-78	58-77	44-66	22-37	19-30	4-12
	40-46	GR-SL	SC, GC-GM, SC-SM	A-2-4, A-1-b, A-6	0	0	59-78	58-77	44-66	22-37	19-29	4-12
	46-51	GRV-SL	GW-GC, GC	A-1-a, A-2-4, A-2-6	0	0	35-54	32-52	23-42	11-22	19-29	4-12
	51-60	GRV-SL	GW-GC, GC	A-2-4, A-1-a, A-2-6	0	0	35-54	32-52	23-42	11-22	19-29	4-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
192: Guijarral-----	0-1	SL	SC-SM, SC	A-2-4, A-4, A-6	0	0	92-100	92-100	64-79	30-43	21-32	4-12
	1-4	SL	SC-SM, SC	A-4, A-6, A- 2-4	0	0	92-100	92-100	69-85	35-48	20-31	4-12
	4-16	SL	SC-SM, SC	A-4, A-6, A- 2-4	0	0	92-100	92-100	69-85	35-48	20-30	4-12
	16-29	GR-SL	SC, GC-GM	A-2-4, A-2-6, A-1-b	0	0	59-78	58-77	41-62	19-33	20-30	4-12
	29-40	GR-SL	SC, GC-GM, SC-SM	A-2-4, A-6, A-1-b	0	0	59-78	58-77	44-66	22-37	19-30	4-12
	40-46	GR-SL	SC, GC-GM, SC-SM	A-2-4, A-1-b, A-6	0	0	59-78	58-77	44-66	22-37	19-29	4-12
	46-51	GRV-SL	GW-GC, GC	A-1-a, A-2-4, A-2-6	0	0	35-54	32-52	23-42	11-22	19-29	4-12
	51-60	GRV-SL	GC, GW-GC	A-2-4, A-1-a, A-2-6	0	0	35-54	32-52	23-42	11-22	19-29	4-12
Klipstein-----	0-5	GRV-LS, GRX-SL, GRV-SL, SL, LS, GRX-LS	SC, SM, SC-SM	A-2-6, A-1-b, A-2-4	0-56	0-47	56-92	54-92	34-70	14-36	16-30	2-12
	5-23	GRV-LS, GRX-SL, GRV-SL, GRX-LS	GP-GC, GP-GM, GC	A-2-4, A-1-a, A-2-6	0-7	0-18	19-54	15-52	10-42	5-22	16-30	2-12
	23-30	GRV-LS, GRV-SL, GRX-LS, GRX-SL	GP-GM, GC	A-2-6, A-1-a, A-2-4	0-15	0-12	19-54	16-52	11-42	5-22	16-30	2-12
	30-36	GRX-SL, GRX-LS, GRV-LS, LS, GRV-SL	SM, CL	A-6, A-2-4	0-6	0-3	70-100	68-100	53-91	28-54	16-29	2-12
	36-60	GRV-SL, GRX-SL, GRX-LS, GRV-LS	GC, GP-GC, GP	A-2-6, A-1-a	0-7	0-18	19-54	15-52	10-40	4-20	16-29	2-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
193: Guijarral-----	0-1	GR-SL	GC-GM, SC	A-1-b, A-2-4, A-2-6	0	0	59-78	58-77	40-61	19-33	21-32	4-12
	1-4	GR-SL	SC-SM, GC-GM, SC	A-2-4, A-6, A-1-b	0	0	59-78	58-77	44-66	22-37	20-31	4-12
	4-16	GR-SL	SC-SM, SC, GC-GM	A-2-4, A-6, A-1-b	0	0	59-78	58-77	44-66	22-37	20-30	4-12
	16-29	GR-SL	SC, GC-GM	A-1-b, A-2-4, A-2-6	0	0	59-78	58-77	41-62	19-33	20-30	4-12
	29-40	GR-SL	GC-GM, SC, SC-SM	A-1-b, A-2-4, A-6	0	0	59-78	58-77	44-66	22-37	19-30	4-12
	40-46	GRV-SL	GC-GM, GC, GP-GC	A-2-6, A-1-b, A-1-a	0	0	35-54	32-52	24-45	12-25	19-29	4-12
	46-51	GRV-SL	GC, GW-GC	A-1-a, A-2-4, A-2-6	0	0	35-54	32-52	23-42	11-22	19-29	4-12
	51-60	GRV-SL	GW-GC, GC	A-2-4, A-1-a, A-2-6	0	0	35-54	32-52	23-42	11-22	19-29	4-12
195: Guijarral, extremely gravelly substratum-----	0-1	GR-SL	GC-GM, SC	A-1-b, A-2-4, A-2-6	0	0	59-78	58-77	40-61	19-33	21-32	4-12
	1-4	GR-SL	SC-SM, GC-GM, SC	A-2-4, A-6, A-1-b	0	0	59-78	58-77	44-66	22-37	20-31	4-12
	4-16	GR-SL	GC-GM, SC, SC-SM	A-2-4, A-6, A-1-b	0	0	59-78	58-77	44-66	22-37	20-30	4-12
	16-29	GR-SL	GC-GM, SC	A-1-b, A-2-4, A-2-6	0	0	59-78	58-77	41-62	19-33	20-30	4-12
	29-40	GR-SL	GC-GM, SC, SC-SM	A-1-b, A-2-4, A-6	0	0	59-78	58-77	44-66	22-37	19-30	4-12
	40-46	GR-SL	SC-SM, SC, GC-GM	A-1-b, A-2-4, A-6	0	0	59-78	58-77	44-66	22-37	19-29	4-12
	46-51	GRX-SL	GP-GC	A-1-a, A-2-4, A-2-6	0	0	23-31	20-28	14-22	7-12	19-29	4-12
	51-60	GRX-SL	GP-GC	A-2-4, A-1-a, A-2-6	0	0	23-31	20-28	14-22	7-12	19-29	4-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
195: Guijarral-----	0-3	GR-SL	GC-GM, SC	A-2-6, A-2-4, A-1-b	0	0	59-78	58-77	40-61	19-33	21-32	4-12
	3-10	GR-SL	SC-SM, GC-GM, SC	A-6, A-2-4, A-1-b	0	0	59-78	58-77	44-66	22-37	20-31	4-12
	10-17	GR-SL	SC-SM, GC-GM, SC	A-1-b, A-2-4, A-6	0	0	59-78	58-77	44-66	22-37	20-30	4-12
	17-23	GR-SL	GC-GM, SC	A-1-b, A-2-4, A-2-6	0	0	59-78	58-77	41-62	19-33	20-30	4-12
	23-41	GR-SL	SC, GC-GM, SC-SM	A-1-b, A-2-4, A-6	0	0	59-78	58-77	44-66	22-37	19-30	4-12
	41-50	GR-SL	SC-SM, SC, GC-GM	A-1-b, A-2-4, A-6	0	0	59-78	58-77	44-66	22-37	19-29	4-12
	50-65	GR-SL	SC, GC-GM	A-1-b, A-2-4, A-2-6	0	0	59-78	58-77	41-62	19-33	19-29	4-12
	65-70	GR-SL	SC, GC-GM	A-2-4, A-1-b, A-2-6	0	0	59-78	58-77	41-62	19-33	19-29	4-12
197: Klipstein-----	0-5	GRX-LS, GRV-LS, GRX-SL, GRV- SL, SL, LS	SC, SM, SC-SM	A-2-6, A-1-b, A-2-4	0-56	0-47	56-92	54-92	34-70	14-36	16-30	2-12
	5-23	GRV-SL, GRX-LS, GRV-LS, GRX-SL	GP-GM, GP-GC, GC	A-2-4, A-1-a, A-2-6	0-7	0-18	19-54	15-52	10-42	5-22	16-30	2-12
	23-30	GRX-LS, GRV-LS, GRX-SL, GRV-SL	GC, GP-GM	A-2-6, A-1-a, A-2-4	0-15	0-12	19-54	16-52	11-42	5-22	16-30	2-12
	30-36	LS, GRV-SL, GRX-SL, GRV- LS, GRX-LS	CL, SM	A-6, A-2-4	0-6	0-3	70-100	68-100	53-91	28-54	16-29	2-12
	36-60	GRX-LS, GRV-LS, GRX-SL, GRV-SL	GC, GP-GC, GP	A-2-6, A-1-a	0-7	0-18	19-54	15-52	10-40	4-20	16-29	2-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
197: Guijarral-----	0-1	GR-SL	SC, GC-GM	A-1-b, A-2-4, A-2-6	0	0	59-78	58-77	40-61	19-33	21-32	4-12
	1-4	GR-SL	SC, SC-SM, GC-GM	A-2-4, A-6, A-1-b	0	0	59-78	58-77	44-66	22-37	20-31	4-12
	4-16	GR-SL	SC-SM, GC-GM, SC	A-2-4, A-6, A-1-b	0	0	59-78	58-77	44-66	22-37	20-30	4-12
	16-29	GR-SL	SC, GC-GM	A-1-b, A-2-4, A-2-6	0	0	59-78	58-77	41-62	19-33	20-30	4-12
	29-40	GR-SL	SC-SM, GC-GM, SC	A-1-b, A-2-4, A-6	0	0	59-78	58-77	44-66	22-37	19-30	4-12
	40-46	GRV-SL	GC-GM, GC, GP-GC	A-2-6, A-1-b, A-1-a	0	0	35-54	32-52	24-45	12-25	19-29	4-12
	46-51	GRV-SL	GC, GW-GC	A-1-a, A-2-4, A-2-6	0	0	35-54	32-52	23-42	11-22	19-29	4-12
	51-60	GRV-SL	GW-GC, GC	A-2-4, A-1-a, A-2-6	0	0	35-54	32-52	23-42	11-22	19-29	4-12
200: Hesperia-----	0-2	LS, FSL, LFS, SL	SM, SC, SC-SM	A-2-6, A-2-4	0	0	100	100	75-90	19-34	16-31	1-12
	2-6	LFS, SL, FSL, LS	SC-SM, SC, SM	A-2-6, A-2-4	0	0	100	100	75-90	19-34	15-30	1-12
	6-13	SL, COSL, FSL, LS	SC-SM, SC, SM	A-2-6, A-2-4	0	0	100	100	75-90	19-34	15-30	1-12
	13-24	LS, SL, COSL, FSL	SC-SM, SC, SM	A-4, A-6, A- 2-4	0	0	100	100	67-82	29-44	0-29	1-12
	24-33	SL, COSL, FSL, LS	SC, SM	A-4, A-6, A- 2-4	0	0	100	100	65-80	28-43	0-29	1-12
	33-60	COSL, SL, FSL, LS	SC-SM, SC, SM	A-4, A-6, A- 2-4	0	0	100	100	67-82	29-44	0-29	1-12
201: Hesperia-----	0-18	SL	SC, SC-SM	A-2-4, A-6	0	0	95-100	86-100	61-82	29-44	18-30	4-12
	18-34	FSL, GR-FSL	SC-SM, SC	A-2-4, A-6	0	0	84-100	64-100	56-98	22-44	18-29	4-12
	34-70	SL, COSL, GR- COSL, GR-SL	SC, SC-SM	A-1-b, A-2-4, A-6	0	0	84-100	64-100	46-82	21-44	18-29	4-12
210: Kimberlina-----	0-9	FSL	SM, SC-SM	A-1-b, A-4	0	0	80-100	75-100	40-70	25-50	20-25	NP-5
	9-45	FSL, SL	SM, SC-SM	A-1-b, A-4	0	0	80-100	75-100	40-70	25-50	20-25	NP-5
	45-71	SR: SIL to SCL	CL, SC, SC-SM	A-2-4, A-6, A-1-b	0	0	84-100	63-100	48-92	23-52	20-35	5-15

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
211: Kimberlina-----	0-10	SL, GRV-SL, GR- SL, GRV-FSL, GR-FSL, FSL	GM, SC	A-6, A-1-b, A-4	0	0-1	49-100	47-100	40-97	15-44	18-31	3-12
	10-19	GR-SL, SL, GRV- SL, GRV-FSL, GR-FSL, FSL	SC, GM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	40-97	15-44	18-30	3-12
	19-28	GRV-FSL, FSL, SL, GRV-SL, GR-SL, GR-FSL	SC-SM, SC, GM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	33-82	15-44	18-30	3-12
	28-45	GR-SL, GRV-FSL, GR-FSL, FSL, SL, GRV-SL	GM, SC, SC-SM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	35-85	17-48	18-29	3-12
	45-60	FSL, SL, GRV- SL, GR-SL, GRV-FSL, GR- FSL	GM, SC, SC-SM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	35-87	17-48	17-29	3-12
212: Kimberlina, saline-sodic-	0-9	FSL	SM	A-4, A-1-b	0	0	80-100	75-100	40-70	25-50	20-30	NP-5
	9-45	FSL, SL	SM	A-4, A-1-b	0	0	80-100	75-100	40-70	25-50	20-30	NP-5
	45-71	SR: SIL to SCL	SC-SM, SC, CL	A-2-4, A-1-b, A-6	0	0	84-100	63-100	48-92	23-52	20-35	5-15
214: Kimberlina-----	0-10	SL, GRV-SL, GR- SL, GRV-FSL, GR-FSL, FSL	GM, SC	A-6, A-1-b, A-2-4	0	0-1	54-100	52-100	36-81	16-43	18-31	3-12
	10-19	SL, GRV-SL, GR- SL, GRV-FSL, GR-FSL, FSL	SC, GM	A-1-b, A-2-4, A-6	0	0-1	54-100	52-100	44-97	17-44	18-30	3-12
	19-28	GR-SL, COSL	SC-SM, SC, GM	A-1-b, A-2-4, A-6	0	0-1	49-100	47-100	33-82	15-44	18-30	3-12
	28-45	COSL, GR-SL	GM, SC, SC-SM	A-1-b, A-2-4, A-6	0	0-1	49-100	47-100	35-85	17-48	18-29	3-12
	45-60	GR-SL, COSL	GM, SC, SC-SM	A-1-b, A-2-4, A-6	0	0-1	49-100	47-100	35-87	17-48	17-29	3-12
215: Kimberlina-----	0-25	GR-SL	SM, SC-SM	A-1-b, A-2-4	0	0	70-80	60-75	30-50	15-35	20-25	NP-5
	25-60	GR-FSL, GR-SL	SM, SC-SM	A-1, A-2	0	0	70-80	60-75	30-50	15-35	20-25	NP-5

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
216: Kimberlina, occasionally flooded-----	0-10	GRV-FSL, GR-SL, GRV-SL, FSL, SL, GR-FSL	GM, SC	A-6, A-1-b, A-4	0	0-1	49-100	47-100	32-80	13-41	18-31	3-12
	10-19	GRV-FSL, GR- FSL, FSL, GR- SL, GRV-SL, SL	SC, GM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	32-81	15-43	18-30	3-12
	19-28	FSL, GR-SL, SL, GR-FSL, GRV- FSL, GRV-SL	SC-SM, SC, GM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	33-82	15-44	18-30	3-12
	28-45	GRV-FSL, GR-SL, GRV-SL, SL, GR-FSL, FSL	GM, SC, SC-SM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	35-85	17-48	18-29	3-12
	45-60	GRV-FSL, GR-SL, GRV-SL, SL, FSL, GR-FSL	GM, SC, SC-SM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	35-87	17-48	17-29	3-12
Granoso, occasionally flooded-----	0-10	LS, SL	SC-SM, SM	A-2-4	0	0-1	85-100	85-100	63-83	17-28	17-26	1-7
	10-20	S, LS, SL	SC-SM, SP-SM	A-2-4	0	0-1	85-100	85-100	65-84	9-18	16-25	1-7
	20-36	GR-COS, GR-S, GR-IS	SW-SM, SP-SM, SC-SM	A-2-4, A-1-b	0	0-1	60-92	59-92	28-51	6-17	16-24	1-7
	36-62	SR: GR-COS to S	SP-SM, SC-SM	A-2-4, A-1-b	0	0-1	60-92	59-92	45-78	6-16	16-24	1-7
217: Kimberlina-----	0-10	FSL, GR-FSL, GRV-FSL, GR- SL, GRV-SL, SL	GM, SC	A-6, A-1-b, A-4	0	0-1	49-100	47-100	32-80	13-41	18-31	3-12
	10-19	FSL, GR-FSL, GRV-FSL, GR- SL, GRV-SL, SL	SC, GM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	32-81	15-43	18-30	3-12
	19-28	FSL, GR-FSL, GRV-FSL, GR- SL, GRV-SL, SL	SC-SM, SC, GM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	33-82	15-44	18-30	3-12
	28-45	GR-FSL, GRV- FSL, GR-SL, GRV-SL, SL, FSL	GM, SC, SC-SM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	35-85	17-48	18-29	3-12
	45-60	SL, GRV-SL, GR- SL, GRV-FSL, GR-FSL, FSL	GM, SC, SC-SM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	35-87	17-48	17-29	3-12
Urban land.												

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
219: Xerorthents-----	0-12	GRV-L	GC, CL, GC-GM	A-1-b, A-4, A-2-4	0	0	39-85	37-84	31-76	22-55	25-30	5-10
	12-19	GRV-L, GRV-SL	GC-GM, CL, GC	A-4, A-2-4, A-1-b	0	0	40-85	37-84	31-78	21-57	20-30	5-10
	19-26	CBX-SL, CBX-L	GP-GC, CL, GC	A-2-4, A-1-b, A-4	0	23-71	22-82	19-82	16-76	11-55	20-30	5-10
	26-36	UWB	---	---	---	---	---	---	---	---	---	---
Badlands.												
220: Lokern, drained-----	0-11	C, SIC, CL, SICL	CL, CH	A-7-6	0	0	100	100	76-96	65-85	49-70	25-40
	11-21	C, SIC, SICL, CL	CH, CL	A-7-6	0	0	100	100	89-100	85-100	47-68	25-40
	21-28	SIC, SICL, C, CL	CH, CL	A-7-6	0	0	100	100	85-100	68-88	47-67	25-40
	28-33	C, SICL, CL, SIC	CH, CL	A-7-6	0	0	100	100	88-100	70-90	46-66	25-40
	33-42	C, SIC, SICL, CL	CH, CL	A-7-6	0	0	100	100	87-100	69-89	46-66	25-40
	42-53	SIC, CL, C, SICL	CH, CL	A-7-6	0	0	100	100	85-100	68-88	45-65	25-40
	53-60	SICL, CL, SIC, C	CH, CL	A-7-6	0	0	100	100	81-100	68-88	47-67	25-40
	60-67	CL, SIC, SICL, C	CH, CL	A-7-6	0	0	100	100	85-100	68-88	45-65	25-40
221: Lokern, partially drained	0-11	SIC, SICL, C, CL	CH, CL	A-7-6	0	0	100	100	76-96	65-85	49-70	25-40
	11-21	SICL, C, SIC, CL	CH, CL	A-7-6	0	0	100	100	89-100	85-100	47-68	25-40
	21-28	SICL, C, SIC, CL	CH, CL	A-7-6	0	0	100	100	85-100	68-88	47-67	25-40
	28-33	CL, SICL, C, SIC	CH, CL	A-7-6	0	0	100	100	88-100	70-90	46-66	25-40
	33-42	C, SIC, SICL, CL	CL, CH	A-7-6	0	0	100	100	87-100	69-89	46-66	25-40
	42-53	CL, SICL, C, SIC	CH, CL	A-7-6	0	0	100	100	85-100	68-88	45-65	25-40
	53-60	CL, C, SIC, SICL	CH, CL	A-7-6	0	0	100	100	81-100	68-88	47-67	25-40
	60-67	C, CL, SICL, SIC	CH, CL	A-7-6	0	0	100	100	85-100	68-88	45-65	25-40

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
230: Milagro-----	0-8	LS, SL	SM, SC, SC-SM	A-2-4, A-2-6	0	0	100	100	75-88	15-28	17-31	2-12
	8-14	SL, LS	SC-SM, SC, SM	A-2-4, A-2-6	0	0	100	100	75-88	15-28	17-31	2-12
	14-19	SL, FSL	SC-SM, SC, SM	A-4, A-2-4, A-6	0	0	100	100	86-99	32-45	17-30	2-12
	19-27	SR: SL to SICL	SC-SM, SC, SM	A-2-4, A-6	0	0	100	100	92-100	28-41	17-29	2-12
	27-32	SR: SL to SICL	CL, ML	A-4, A-6	0	0	100	100	83-100	65-88	17-32	2-13
	32-51	SR: SL to SICL	SC-SM, CL, SM	A-4, A-2-4, A-6	0	0	100	100	72-95	35-58	17-29	2-12
	51-60	SR: SL to SICL	SC-SM, CL, SM	A-4, A-2-4, A-6	0	0	100	100	72-95	35-58	17-29	2-12
231: Milagro-----	0-8	SL, FSL	SM, SC, SC-SM	A-6, A-4	0	0	100	100	85-98	37-50	17-31	2-12
	8-14	SL, FSL	SC-SM, SC, SM	A-4, A-6, A- 2-4	0	0	100	100	86-99	32-45	17-31	2-12
	14-19	SR: LFS to SIL	SC-SM, SC, SM	A-4, A-2-4, A-6	0	0	100	100	86-99	32-45	17-30	2-12
	19-27	SR: LFS to SIL	SC-SM, SC, SM	A-2-4, A-6	0	0	100	100	92-100	28-41	17-29	2-12
	27-32	SR: LFS to SIL	CL, ML	A-4, A-6	0	0	100	100	83-98	65-80	17-32	2-13
	32-51	SR: LFS to SIL	SC-SM, SC, SM	A-4, A-2-4, A-6	0	0	100	100	72-85	35-48	17-29	2-12
	51-60	SR: LFS to SIL	SC-SM, SC, SM	A-4, A-2-4, A-6	0	0	100	100	72-85	35-48	17-29	2-12
240: Millox, partially drained	0-5	C, CL	CL, CH	A-7-6	0	0	100	100	85-100	66-86	43-63	21-36
	5-19	CL, C	CH, CL	A-7-6	0	0	100	100	80-100	63-83	42-62	21-36
	19-35	CL, C	CH, CL	A-7-6	0	0	100	100	75-95	63-83	42-62	21-36
	35-53	L, CL, C, SIL	CH, CL	A-7-6, A-6	0	0	100	100	78-100	60-84	38-61	18-37
	53-60	SCL, L, CL	CL, SC	A-7-6, A-2-4	0	0	100	100	71-91	35-55	26-46	10-25
	60-65	SL, FSL, L	CL, SC	A-6, A-4	0	0	100	100	93-100	41-51	25-35	9-17
241: Millox, partially drained, nonsaline-----	0-5	CL, C	CH, CL	A-7-6	0	0	100	100	84-100	65-85	43-63	21-36
	5-19	C, CL	CH, CL	A-7-6	0	0	100	100	80-100	63-83	42-62	21-36
	19-35	C, CL	CH, CL	A-7-6	0	0	100	100	80-100	63-83	42-62	21-36
	35-53	C, L, CL, SIL	CH, CL	A-7-6, A-6	0	0	100	100	76-100	59-83	38-61	18-37
	53-60	CL, L, SCL	CL	A-7-6, A-4	0	0	100	100	76-96	57-77	26-46	10-25
	60-65	SL, L, FSL	CL, SC	A-6, A-4	0	0	100	100	93-100	41-51	25-35	9-17

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>											
242:												
Millox, partially drained	0-5	CL, C	CH, CL	A-7-6	0	0	100	100	85-100	66-86	43-63	21-36
	5-19	CL, C	CH, CL	A-7-6	0	0	100	100	80-100	63-83	42-62	21-36
	19-35	CL, C	CH, CL	A-7-6	0	0	100	100	75-95	63-83	42-62	21-36
	35-53	L, C, SIL, CL	CH, CL	A-7-6, A-6	0	0	100	100	78-100	60-84	38-61	18-37
	53-60	CL, L, SCL	CL, SC	A-7-6, A-2-4	0	0	100	100	71-91	35-55	26-46	10-25
	60-65	SL, L, FSL	CL, SC	A-6, A-4	0	0	100	100	77-87	40-50	25-35	9-17
Tennco-----	0-1	FSL, VFSL	CL-ML, CL	A-6, A-4	0	0	100	100	95-100	54-62	22-32	6-12
	1-5	FSL, SL	SM, SC-SM	A-4	0	0	100	100	77-83	40-46	15-22	1-6
	5-13	FSL, SL	SC, SC-SM	A-4, A-6, A-2-4	0	0	100	100	73-77	35-39	21-29	6-12
	13-18	L, SIL	ML, CL-ML	A-4	0	0	100	100	85-90	58-63	16-22	2-6
	18-25	L, SIL	CL, CL-ML, ML	A-4	0	0	100	100	87-96	68-77	16-25	2-9
	25-45	SIL, L	CL, CL-ML	A-6, A-4	0	0	100	96-100	81-91	57-66	21-29	6-12
	45-60	SIL, L	CL, CL-ML	A-6, A-4	0	0	100	96-100	81-91	57-66	21-29	6-12
243:												
Millox, partially drained	0-5	C, CL	CH, CL	A-7-6	0	0	100	100	84-100	65-85	43-63	21-36
	5-19	CL, C	CH, CL	A-7-6	0	0	100	100	80-100	63-83	42-62	21-36
	19-35	CL, C	CH, CL	A-7-6	0	0	100	100	75-95	63-83	42-62	21-36
	35-53	SIL, L, CL, C	CH, CL	A-7-6, A-6	0	0	100	100	76-100	59-83	38-61	18-37
	53-60	CL, SCL, L	CL	A-7-6, A-4	0	0	100	100	76-96	57-77	26-46	10-25
	60-65	SL, L, FSL	CL, SC	A-6, A-4	0	0	100	100	93-100	41-51	25-35	9-17
Zalvidea, partially drained-----	0-8	SCL, SL	SC-SM, SC, CL	A-4, A-7-6, A-2-4	0	0	86-100	85-100	60-98	28-60	20-45	4-25
	8-23	SL, FSL	SC-SM, SC	A-2-4, A-6	0	0	86-100	86-100	61-82	29-44	19-30	4-12
	23-27	FSL, SL	SC-SM, SC	A-2-4, A-6	0	0	86-100	86-100	61-82	29-44	19-30	4-12
	27-37	FSL, SL	SC-SM, SC	A-4, A-6, A-2-4	0	0	86-100	86-100	64-85	32-48	19-29	4-12
	37-52	FSL, SL	SC-SM, SC	A-2-4, A-4, A-6	0	0	86-100	86-100	75-98	29-44	19-29	4-12
	52-65	SR: S to SL	SC, SP-SM	A-2-4, A-2-6	0	0	95-100	86-100	66-100	8-35	15-39	1-21
	65-69	SR: S to SL	ML, CL	A-4, A-7-6, A-6	0	0	100	100	75-100	64-90	17-41	2-21
246:												
Whitewolf-----	0-11	COSL	SM, SC-SM	A-2-4, A-1-b	0	0	80-100	75-100	50-65	20-35	17-24	2-6
	11-65	LCOS, LS	SM, SC-SM	A-1-b, A-2-4	0	0	80-100	75-100	40-70	15-30	0-19	NP-4

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
250: Oldriver-----	0-11	L	ML, CL	A-7-6, A-6	0	0	100	91-100	76-92	56-70	31-47	12-19
	11-16	L	SC-SM, CH	A-4, A-7-6	0	0	100	91-100	74-100	51-100	19-59	3-36
	16-22	SR: FSL to L	SC, CH, SM	A-6, A-7-6, A-2-4	0	0	100	91-100	75-100	27-74	18-58	3-36
	22-30	SR: FSL to L	CL, CH, ML	A-4, A-6, A- 7-6	0	0	100	91-100	70-100	60-100	19-59	3-36
	30-39	SR: FSL to L	SC, CH, SM	A-4, A-2-4, A-7-6	0	0	100	91-100	77-100	29-76	18-57	3-36
	39-49	SR: FSL to L	SC-SM, CH, SM	A-4, A-2-4, A-7-6	0	0	100	91-100	81-100	35-83	18-57	3-36
	49-63	SR: SL to L	CH, SM	A-7-6, A-4	0	0	100	91-100	52-100	49-98	20-60	3-37
251: Oldriver, partially drained, sodic-----	0-11	L	ML, CL	A-7-6, A-6	0	0	100	91-100	76-92	56-70	31-47	12-19
	11-16	SR: FSL to SIL	SC-SM, SM, CH	A-2-4, A-4, A-7-6	0	0	100	91-100	79-100	30-77	19-59	3-36
	16-22	SR: FSL to SIL	SC, CH, SM	A-6, A-7-6, A-2-4	0	0	100	91-100	75-100	27-74	18-58	3-36
	22-30	C	CL, CH, ML	A-4, A-6, A- 7-6	0	0	100	91-100	54-100	37-85	19-59	3-36
	30-39	SR: FSL to SIC	SC, CH, SM	A-4, A-2-4, A-7-6	0	0	100	91-100	77-100	29-76	18-57	3-36
	39-49	SR: FSL to SIC	SC-SM, CH, SM	A-4, A-2-4, A-7-6	0	0	100	91-100	81-100	35-83	18-57	3-36
	49-63	SIC	CH, SM	A-7-6, A-4	0	0	100	91-100	52-100	49-98	20-60	3-37
260: Panoche-----	0-9	L	CL	A-6	0	0	84-100	84-100	71-94	52-71	29-39	12-19
	9-23	SCL, CL, SICL, L	CL	A-6, A-7-6	0	0	84-100	84-100	71-100	52-79	30-47	12-25
	23-39	L, CL, SCL, SICL	CL	A-7-6, A-6	0	0	84-100	84-100	70-100	51-78	29-46	12-25
	39-60	SICL, L, CL, SCL	CL	A-7-6, A-6	0	0	84-100	84-100	74-100	53-81	28-44	12-25
270: Pits. Dumps.												

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
280: Premier-----	0-16	SL	SC, SM	A-6, A-4, A-2-4	0	0	100	97-100	65-79	29-43	18-31	2-12
	16-60	L, SL, COSL	SM, SC	A-2-4, A-6, A-4	0	0	100	97-100	67-81	29-43	17-29	2-12
281: Premier-----	0-16	SL	SC, SM	A-2-4, A-4, A-6	0	0	100	97-100	65-79	29-43	18-31	2-12
	16-60	FSL, COSL, L, SL	SM, SC	A-2-4, A-6, A-4	0	0	100	97-100	67-81	29-43	17-29	2-12
290: Riverwash.												
300: Tennco-----	0-1	FSL, VFSL	CL-ML, CL	A-6, A-4	0	0	100	100	95-100	54-62	22-32	6-12
	1-5	SL, FSL	SM, SC-SM	A-4	0	0	100	100	77-83	40-46	15-22	1-6
	5-13	FSL, SL	SC, SC-SM	A-4, A-6, A-2-4	0	0	100	100	73-77	35-39	21-29	6-12
	13-18	SIL, L	ML, CL-ML	A-4	0	0	100	100	85-90	58-63	16-22	2-6
	18-25	SIL, L	CL, CL-ML, ML	A-4	0	0	100	100	87-96	68-77	16-25	2-9
	25-45	L, SIL	CL, CL-ML	A-6, A-4	0	0	100	96-100	81-91	57-66	21-29	6-12
	45-60	SIL, L	CL, CL-ML	A-6, A-4	0	0	100	96-100	81-91	57-66	21-29	6-12
310: Vineland, drained-----	0-6	LS	SM	A-2-4	0	0	100	100	77-81	28-32	0-20	NP-3
	6-14	LS, S	SM	A-2-4	0	0	100	100	77-81	27-31	0-20	NP-3
	14-22	SR: COS to FSL	SM, SP-SM	A-1-b	0	0	100	100	46-50	12-16	0-20	NP-3
	22-26	SR: COS to FSL	SM	A-2-4	0	0	100	100	77-81	28-32	0-20	NP-3
	26-38	SR: S to L	SP-SM, SC-SM	A-2-4, A-3	0	0	100	100	75-83	7-15	0-23	NP-6
	38-43	SR: S to L	SC, SM	A-4, A-2-4, A-6	0	0	100	100	69-82	31-44	17-30	2-12
	43-54	SR: S to L	SP-SM, SC-SM	A-2-4, A-3	0	0	100	100	76-83	8-15	0-23	NP-6
	54-58	SR: S to L	CL, ML	A-6, A-4	0	0	100	100	76-89	52-65	16-31	2-12
	58-64	SR: S to L	SM, SC	A-2-4, A-4	0	0	100	100	78-90	28-40	0-27	NP-10

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
312:												
Vineland, drained-----	0-6	LS	SM	A-2-4	0	0	100	100	77-81	28-32	0-20	NP-3
	6-14	LS, S	SM	A-2-4	0	0	100	100	77-81	27-31	0-20	NP-3
	14-22	LS, S	SM	A-2-4	0	0	100	100	77-81	28-32	0-20	NP-3
	22-26	FS, SR: S to SIL, LS	SM	A-2-4	0	0	100	100	77-81	28-32	0-20	NP-3
	26-38	SR: S to SIL	SP-SM, SC-SM	A-2-4, A-3	0	0	100	100	75-83	7-15	0-23	NP-6
	38-43	SR: S to SIL	SC, SM	A-4, A-2-4, A-6	0	0	100	100	69-82	31-44	17-30	2-12
	43-54	SR: S to SIL	SP-SM, SC-SM	A-2-4, A-3	0	0	100	100	76-83	8-15	0-23	NP-6
	54-58	SR: S to SIL	CL, ML	A-6, A-4	0	0	100	100	76-89	52-65	16-31	2-12
	58-64	SR: S to SIL	SM, SC	A-2-4, A-4	0	0	100	100	78-90	28-40	0-27	NP-10
Bakersfield, drained-----	0-3	FSL	CL, SM	A-4, A-6	0	0	100	95-100	75-92	45-60	18-33	2-11
	3-10	FSL	SM, SC	A-2-4, A-6, A-4	0	0	100	95-100	78-95	29-43	18-30	2-11
	10-16	FSL	SM, SC-SM	A-2-4, A-6, A-4	0	0	100	95-100	77-94	27-42	18-30	2-15
	16-29	SR: S to L	SC, SC-SM, SM	A-2-4, A-4, A-6	0	0	100	95-100	64-82	27-44	0-29	NP-12
	29-45	SR: S to L	CL, SM	A-6, A-4	0	0	100	95-100	71-90	37-54	0-28	NP-12
	45-51	L	CL-ML, CL	A-6, A-4	0	0	100	95-100	75-92	53-69	22-35	7-17
	51-58	SR: SL to SIL	CL	A-6	0	0	100	95-100	87-100	80-93	28-36	12-18
	58-66	SR: S to L	SM	A-2-4	0	0	100	95-100	89-97	17-21	0-16	NP-2
320:												
Wasco-----	0-7	SL	SC-SM, SC	A-2-4, A-6, A-4	0	0	92-100	92-100	70-81	33-43	20-30	4-12
	7-17	FSL, SL	SC, SC-SM	A-6, A-2-4	0	0	92-100	92-100	70-82	33-44	19-30	4-12
	17-25	SL	SC, SC-SM	A-6, A-2-4	0	0	92-100	92-100	70-82	33-44	19-29	4-12
	25-31	SL	SC, SC-SM	A-4, A-6, A- 2-4	0	0	92-100	92-100	70-85	33-48	19-29	4-12
	31-64	SIL, SL, LS	SC, SC-SM	A-6, A-2-4	0	0	92-100	92-100	70-87	33-48	19-29	4-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
330: Cuyama-----	0-5	GR-SL, SL	SC-SM, SC	A-6, A-2-4	0	0-16	76-100	75-100	52-80	25-43	19-30	4-12
	5-13	GR-L, L	CL, CL-ML, SC-SM	A-4, A-6	0	0-16	75-100	74-100	62-93	43-68	19-30	4-12
	13-28	SL, L, GR-L, GR-SL	SC-SM, CL	A-6, A-4	0	0-16	76-100	75-100	63-99	44-73	20-36	6-17
	28-42	SCL, GRV-SCL, GRV-SL, GR-L, L, GR-SCL	SC, GC	A-7-6, A-2-6	0	8-16	56-77	54-76	43-70	23-41	31-42	13-21
	42-58	STX-SL, STV-SL, STX-S, STV-S, STX-LS, STV-LS	GP-GC, GC	A-1-a, A-2-4, A-2-6	29-38	8-17	35-62	35-62	22-49	9-26	20-29	6-12
	58-75	CBV-SL, CBV-LS, CBX-LS, CBV-S, CBX-S, CBX-SL	GC, GP	A-2-6, A-1-a	8-15	29-53	13-62	13-62	10-57	1-15	0-28	NP-12
331: Cuyama-----	0-5	GR-SL, SL	SC-SM, SC	A-6, A-2-4	0	0-16	76-100	75-100	52-80	25-43	19-30	4-12
	5-13	GR-L, L	CL, CL-ML, SC-SM	A-4, A-6	0	0-16	75-100	74-100	62-93	43-68	19-30	4-12
	13-28	L, GR-L, GR-SL, SL	SC-SM, CL	A-6, A-4	0	0-16	76-100	75-100	63-99	44-73	20-36	6-17
	28-42	GRV-SL, SCL, GR-SCL, L, GR- L, GRV-SCL	SC, GC	A-7-6, A-2-6	0	8-16	56-77	54-76	43-70	23-41	31-42	13-21
	42-58	STX-S, STX-SL, STV-SL, STV- LS, STX-LS, STV-S	GP-GC, GC	A-1-a, A-2-4, A-2-6	29-38	8-17	35-62	35-62	22-49	9-26	20-29	6-12
	58-75	CBX-S, CBV-S, CBV-SL, CBV- LS, CBX-SL, CBX-LS	GC, GP	A-2-6, A-1-a	8-15	29-53	13-62	13-62	10-57	1-15	0-28	NP-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
332: Cuyama-----	0-5	SL, GR-SL	SC-SM, SC	A-6, A-2-4	0	0-16	76-100	75-100	52-80	25-43	19-30	4-12
	5-13	L, GR-L	CL, CL-ML, SC-SM	A-4, A-6	0	0-16	75-100	74-100	62-93	43-68	19-30	4-12
	13-28	GR-SL, L, SL, GR-L	SC-SM, CL	A-6, A-4	0	0-16	76-100	75-100	63-99	44-73	20-36	6-17
	28-42	GR-SCL, GRV- SCL, SCL, GRV- SL, GR-L, L	SC, GC	A-7-6, A-2-6	0	8-16	56-77	54-76	43-70	23-41	31-42	13-21
	42-58	STX-SL, STV-SL, STV-LS, STX- LS, STV-S, STX-S	GP-GC, GC	A-1-a, A-2-4, A-2-6	29-38	8-17	35-62	35-62	22-49	9-26	20-29	6-12
	58-75	CBV-SL, CBV-LS, CBX-LS, CBV-S, CBX-S, CBX-SL	GC, GP	A-2-6, A-1-a	8-15	29-53	13-62	13-62	10-57	1-15	0-28	NP-12
340: Weedpatch-----	0-8	CL, SICL	CL	A-6, A-7-6	0	0	100	100	79-94	59-74	32-48	13-25
	8-18	CL, SICL	CL	A-7-6, A-6	0	0	100	100	81-96	62-77	31-46	13-25
	18-24	CL, SICL, L	CL	A-6, A-7-6	0	0	100	100	77-92	58-73	31-46	13-25
	24-42	CL, L, SICL	CL	A-6, A-7-6	0	0	100	100	77-92	57-72	31-46	13-25
	42-47	SICL, CL, L	CL	A-6, A-7-6	0	0	100	100	78-93	58-73	31-46	13-25
	47-59	L, SICL, CL	CL	A-6, A-7-6	0	0	100	100	78-93	58-73	31-45	13-25
	59-64	CL, L	CL	A-6, A-7-6	0	0	100	100	77-92	57-72	31-45	13-25
350: Posochanet, saline-sodic-	0-1	L, SIL	CL	A-4, A-6, A- 7-6	0	0	100	100	97-100	89-100	30-43	10-19
	1-6	SICL, L, SIL	CL	A-4, A-7-6	0	0	100	100	83-100	79-99	27-48	10-25
	6-16	CL, SIC, SIL, SICL, L	CL	A-4, A-7-6	0	0	100	100	82-100	78-100	27-60	10-36
	16-26	CL, SIC, SICL, SIL, L	CL, CH	A-4, A-7-6	0	0	100	100	83-100	67-100	29-61	10-37
	26-41	SIC, CL, SICL, SIL, L	CH, CL	A-4, A-7-6	0	0	100	100	69-100	65-100	27-59	10-36
	41-54	CL, L, SIC, SICL, SIL	CL-ML, CL, CH	A-4, A-7-6, A-6	0	0	100	100	76-100	60-100	20-57	6-36
	54-58	SICL, CL, SIL, SIC, L	CH, CL-ML, CL	A-6, A-4, A- 7-6	0	0	100	100	91-100	70-100	20-57	6-36
	58-62	SICL, SIL, L, SIC, CL	CH, CL-ML, CL	A-6, A-4, A- 7-6	0	0	100	100	92-100	84-100	20-57	6-36

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
351: Posochanet, saline-sodic-	0-1	SIL, L, SICL	CL	A-7-6, A-4, A-6	0	0	100	100	84-100	80-100	30-43	10-19
	1-6	L, SIL, SICL	CL	A-4, A-7-6	0	0	100	100	83-100	79-99	27-48	10-25
	6-16	SICL, SIL, L, SIC, CL	CL	A-4, A-7-6	0	0	100	100	82-100	78-100	27-60	10-36
	16-26	SIC, CL, SICL, SIL, L	CL, CH	A-4, A-7-6	0	0	100	100	83-100	67-100	29-61	10-37
	26-41	SICL, SIL, L, SIC, CL	CH, CL	A-4, A-7-6	0	0	100	100	69-100	65-100	27-59	10-36
	41-54	CL, SIC, L, SICL, SIL	CL-ML, CL, CH	A-4, A-7-6, A-6	0	0	100	100	76-100	60-100	20-57	6-36
	54-58	SIC, SICL, SIL, L, CL	CH, CL-ML, CL	A-6, A-4, A- 7-6	0	0	100	100	91-100	70-100	20-57	6-36
	58-62	L, SIC, CL, SICL, SIL	CH, CL-ML, CL	A-6, A-4, A- 7-6	0	0	100	100	90-100	83-100	20-57	6-36
352: Posochanet-----	0-1	L, SIL	CL	A-7-6, A-4, A-6	0	0	100	100	97-100	89-100	30-43	10-19
	1-6	SIL, L, SICL	CL	A-4, A-7-6	0	0	100	100	83-100	79-99	27-48	10-25
	6-16	CL, SIC, L, SIL, SICL	CL	A-4, A-7-6	0	0	100	100	82-100	78-100	27-60	10-36
	16-26	CL, SIL, SIC, L, SICL	CL, CH	A-4, A-7-6	0	0	100	100	83-100	67-100	29-61	10-37
	26-41	SICL, SIL, L, SIC, CL	CH, CL	A-4, A-7-6	0	0	100	100	69-100	65-100	27-59	10-36
	41-54	SICL, SIL, L, SIC, CL	CL-ML, CL, CH	A-4, A-7-6, A-6	0	0	100	100	76-100	60-100	20-57	6-36
	54-58	SICL, SIL, L, SIC, CL	CH, CL-ML, CL	A-6, A-4, A- 7-6	0	0	100	100	91-100	70-100	20-57	6-36
	58-62	SICL, L, SIC, CL, SIL	CH, CL-ML, CL	A-6, A-4, A- 7-6	0	0	100	100	90-100	83-100	20-57	6-36

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
352: Posochanet, partially reclaimed-----	0-1	SIL, L, SCL	CL	A-4, A-6, A-7-6	0	0	100	100	97-100	89-100	30-43	10-19
	1-6	SICL, SIL, L	CL	A-4, A-7-6	0	0	100	100	83-100	79-99	27-48	10-25
	6-16	CL, SIC, L, SIL, SICL	CL	A-4, A-7-6	0	0	100	100	82-100	78-100	27-60	10-36
	16-26	CL, SICL, SIL, L, SIC	CL, CH	A-4, A-7-6	0	0	100	100	83-100	67-100	29-61	10-37
	26-41	SIL, L, SICL, SIC, CL	CH, CL	A-4, A-7-6	0	0	100	100	69-100	65-100	27-59	10-36
	41-54	SIC, L, SIL, SICL, CL	CL-ML, CL, CH	A-4, A-7-6, A-6	0	0	100	100	76-100	60-100	20-57	6-36
	54-58	SICL, SIL, L, SIC, CL	CH, CL-ML, CL	A-6, A-4, A-7-6	0	0	100	100	91-100	70-100	20-57	6-36
	58-62	CL, SICL, SIL, SIC, L	CH, CL-ML, CL	A-6, A-4, A-7-6	0	0	100	100	90-100	83-100	20-57	6-36
360: Wheelridge-----	0-7	GR-LS, LS	SM, SC-SM	A-1-b, A-2-4	0	0	62-86	59-85	45-70	16-28	0-22	NP-4
	7-13	LS, GR-LS	SM, SC-SM	A-2-4, A-1-b	0	0	62-86	59-85	45-70	16-28	0-22	NP-4
	13-27	GR-LS, LS	SM, SC-SM	A-2-4, A-1-b	0	0	62-86	59-85	45-70	16-28	0-21	NP-4
	27-44	CB-LS, CBV-LS	SM, SC-SM	A-2-4	0	15-24	72-84	71-83	54-68	19-28	0-21	NP-4
	44-65	GRX-S, GRV-S	GP	A-1-a, A-1-b	0	0-7	18-41	14-38	11-31	1-4	0-18	NP-2
370: Whitewolf-----	0-11	LS	SM	A-1-b, A-2-4	0	0	84-100	64-100	50-83	13-26	---	NP
	11-65	LCOS, LS	SM	A-1-b, A-2-4	0	0	80-100	75-100	40-70	15-30	---	NP
371: Whitewolf-----	0-11	LS	SC-SM, SM	A-1-b, A-2-4	0	0	84-100	64-100	50-83	13-26	---	NP
	11-65	LCOS, LS	SC-SM, SM	A-1-b, A-2-4	0	0	80-100	75-100	40-70	15-30	---	NP
380: Zalvidea, partially drained-----	0-8	SL	SC-SM, SC, CL	A-4, A-7-6, A-2-4	0	0	86-100	85-100	60-98	28-60	20-45	4-25
	8-23	SL, FSL	SC-SM, SC	A-2-4, A-6	0	0	86-100	86-100	61-82	29-44	19-30	4-12
	23-27	FSL, SL	SC-SM, SC	A-2-4, A-6	0	0	86-100	86-100	61-82	29-44	19-30	4-12
	27-37	FSL, SL	SC-SM, SC	A-4, A-6, A-2-4	0	0	86-100	86-100	64-85	32-48	19-29	4-12
	37-52	FSL, SL	SC-SM, SC	A-2-4, A-4, A-6	0	0	86-100	86-100	75-98	29-44	19-29	4-12
	52-65	SR: S to SIL	SC, SP-SM	A-2-4, A-2-6	0	0	95-100	86-100	66-100	8-35	15-39	1-21
	65-69	SR: S to SIL	ML, CL	A-4, A-7-6, A-6	0	0	100	100	75-100	64-90	17-41	2-21

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
381: Zalvidea, partially drained-----	0-8	SL, SCL	SC-SM, SC, CL	A-4, A-7-6, A-2-4	0	0	86-100	85-100	62-100	29-61	20-45	4-25
	8-23	SL, FSL	SC-SM, SC	A-2-4, A-6	0	0	86-100	86-100	61-82	29-44	19-30	4-12
	23-27	SL, FSL	SC-SM, SC	A-2-4, A-6	0	0	86-100	86-100	61-82	29-44	19-30	4-12
	27-37	SL, FSL	SC-SM, SC	A-4, A-6, A- 2-4	0	0	86-100	86-100	64-85	32-48	19-29	4-12
	37-52	FSL, SL	SC-SM, SC	A-2-4, A-4, A-6	0	0	86-100	86-100	75-98	29-44	19-29	4-12
	52-65	SR: S to SIL	SC, SP-SM	A-2-4, A-2-6	0	0	95-100	86-100	66-100	8-35	15-39	1-21
	65-69	SR: S to SIL	ML, CL	A-4, A-7-6, A-6	0	0	100	100	75-100	64-90	17-41	2-21
389: Xerofluvents-----	0-4	GR-SL, GRV-SL	GC-GM, SC, GC	A-2-4, A-1-b, A-2-6	0	0	50-72	48-71	33-57	16-30	20-30	4-12
	4-19	GRV-S, GRX-S, GRV-LS, GRX- LS, GRV-LCOS, GRX-LCOS, GRV- SL, GRX-SL	GW-GM, GC, GP-GM	A-1-a, A-2-6	0	0	24-55	21-53	16-49	6-23	0-30	NP-12
	19-31	GRV-SL, GR-SL, GRV-LS, GRV-S, GR-S, GR-LS, GRV-LCOS, GR- LCOS	SC, GP, SP-SM	A-1-b, A-2-6	0	0	50-72	48-71	36-65	4-17	0-30	NP-12
	31-40	GRV-SL, GRX-SL, GRV-LS, GRX- LS, GRV-LCOS, GRX-S, GRX- LCOS, GRV-S	GC, GP-GM	A-1-a, A-2-6	0	0	20-55	17-53	13-49	5-23	0-30	NP-12
	40-53	GR-LCOS, GRV-S, GR-S, GRV-SL, GR-LS, GRV- LCOS, GRV-LS, GR-SL	GP, SC, SP-SM	A-1-b, A-2-6	0	0	50-72	48-71	36-65	4-17	0-29	NP-12
	53-62	GR-SL, GR-LS, GRV-LCOS, GR- LCOS, GRV-SL, GRV-S, GRV-LS, GR-S	GM, SC, GC-GM	A-2-4, A-1-b, A-2-6	0	0	50-72	48-71	32-58	13-31	0-30	NP-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
389: Haploxerepts-----	0-7	GRV-SL, GR-SL, GRV-CL, GR-CL	GC, GC-GM	A-2-4, A-7-6, A-1-b	0	0	50-78	48-77	36-77	18-49	21-45	4-24
	7-20	GRV-CL, GR-CL, GRV-SL, GR-SL	GC, GC-GM, SC	A-1-b, A-7-6, A-2-4	0	0	50-78	48-77	33-74	16-46	20-44	4-24
	20-41	GR-SL, GRV-SL, GR-CL, GRV-CL	SC, GC, GC-GM	A-1-b, A-7-6, A-2-4	0	0	50-78	48-77	34-76	16-46	19-43	4-24
	41-60	GRV-CL, GR-CL, GRV-SL, GR-SL	GC, GC-GM	A-1-b, A-7-6, A-2-4	0	0	50-78	48-77	33-74	16-46	19-43	4-24
Riverwash.												
390: Pleito-----	0-4	FSL, SCL, GR- SCL, GR-FSL	SC-SM, CL, SC	A-7-6, A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	25-41	6-17
	4-8	SCL, GR-FSL, GR-SCL, FSL	SC-SM, SC, CL	A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	23-38	6-17
	8-18	FSL, SCL, GR- SCL, GR-FSL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-17
	18-25	FSL, GR-SCL, GR-FSL, SCL	CL, SC, SC-SM	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-18
	25-32	SCL, GR-SCL, FSL, GR-FSL	CL, SC, SC-SM	A-1-b, A-6	0	0-8	64-100	63-100	47-90	22-51	21-36	6-17
	32-46	GRV-FSL, GRV- SCL, GR-FSL, GR-SCL, SCL, FSL	SC, GC-GM, CL	A-1-b, A-2-6, A-6	0-16	0-8	59-100	57-100	43-90	20-51	21-35	6-17
	46-56	GR-SL, GR-SCL, SCL, GRV-SCL, SL, GRV-SL	SC, SC-SM, CL	A-6, A-1-b	0-8	0-8	63-100	61-100	46-90	22-51	21-35	6-17
	56-64	GRV-SL, GR-SL, GR-SCL, SCL, SL, GRV-SCL	SC, SC-SM	A-1-b, A-6	0-8	0-8	62-100	60-100	45-90	22-51	21-35	6-17
	64-80	GRV-L, GRV-SL, GR-L, GR-SCL, SL, L	CL, GC, GC-GM	A-1-b, A-2-6, A-6	0-8	0-8	48-100	46-100	35-91	17-51	21-35	6-17

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
391: Pleito-----	0-4	GR-FSL, GR-SCL, SCL, FSL	CL, SC-SM, SC	A-7-6, A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	25-41	6-17
	4-8	FSL, SCL, GR- SCL, GR-FSL	CL, SC-SM, SC	A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	23-38	6-17
	8-18	FSL, SCL, GR- SCL, GR-FSL	CL, SC, SC-SM	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-17
	18-25	FSL, SCL, GR- SCL, GR-FSL	CL, SC, SC-SM	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-18
	25-32	FSL, SCL, GR- SCL, GR-FSL	SC-SM, CL, SC	A-1-b, A-6	0	0-8	64-100	63-100	47-90	22-51	21-36	6-17
	32-46	FSL, SCL, GR- SCL, GR-FSL, GRV-SCL, GRV- FSL	CL, SC, GC-GM	A-1-b, A-2-6, A-6	0-16	0-8	59-100	57-100	43-90	20-51	21-35	6-17
	46-56	SCL, GR-SL, GR- SCL, GRV-SL, GRV-SCL, SL	CL, SC, SC-SM	A-6, A-1-b	0-8	0-8	63-100	61-100	46-90	22-51	21-35	6-17
	56-64	SL, GRV-SCL, GRV-SL, SCL, GR-SCL, GR-SL	SC, SC-SM	A-1-b, A-6	0-8	0-8	62-100	60-100	45-90	22-51	21-35	6-17
	64-80	GR-SCL, GR-L, L, GRV-SL, GRV-L, SL	GC-GM, CL, GC	A-1-b, A-2-6, A-6	0-8	0-8	48-100	46-100	35-91	17-51	21-35	6-17

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
392: Pleito-----	0-4	FSL, SCL, GR- SCL, GR-FSL	SC-SM, CL, SC	A-7-6, A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	25-41	6-17
	4-8	GR-SCL, GR-FSL, SCL, FSL	SC-SM, SC, CL	A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	23-38	6-17
	8-18	FSL, SCL, GR- SCL, GR-FSL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-17
	18-25	SCL, GR-FSL, GR-SCL, FSL	CL, SC, SC-SM	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-18
	25-32	FSL, GR-FSL, GR-SCL, SCL	CL, SC, SC-SM	A-1-b, A-6	0	0-8	64-100	63-100	47-90	22-51	21-36	6-17
	32-46	GR-SCL, GRV- FSL, GRV-SCL, GR-FSL, SCL, FSL	CL, SC, GC-GM	A-1-b, A-2-6, A-6	0-16	0-8	59-100	57-100	43-90	20-51	21-35	6-17
	46-56	GRV-SCL, SL, SCL, GR-SCL, GR-SL, GRV-SL	CL, SC, SC-SM	A-6, A-1-b	0-8	0-8	63-100	61-100	46-90	22-51	21-35	6-17
	56-64	GRV-SL, SCL, GRV-SCL, GR- SCL, GR-SL, SL	SC-SM, SC	A-1-b, A-6	0-8	0-8	62-100	60-100	45-90	22-51	21-35	6-17
	64-80	L, SL, GRV-L, GRV-SL, GR-L, GR-SCL	GC-GM, GC, CL	A-1-b, A-2-6, A-6	0-8	0-8	48-100	46-100	35-91	17-51	21-35	6-17

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
393: Pleito-----	0-4	SCL, GR-SCL, GR-FSL, FSL	CL, SC, SC-SM	A-7-6, A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	25-41	6-17
	4-8	FSL, GR-FSL, GR-SCL, SCL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	23-38	6-17
	8-18	GR-SCL, GR-FSL, FSL, SCL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-17
	18-25	SCL, GR-SCL, GR-FSL, FSL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-18
	25-32	GR-SCL, GR-FSL, FSL, SCL	SC, SC-SM, CL	A-1-b, A-6	0	0-8	64-100	63-100	47-90	22-51	21-36	6-17
	32-46	FSL, GR-FSL, GR-SCL, SCL, GRV-SCL, GRV- FSL	SC, GC-GM, CL	A-1-b, A-2-6, A-6	0-16	0-8	59-100	57-100	43-90	20-51	21-35	6-17
	46-56	SL, GRV-SCL, GRV-SL, SCL, GR-SCL, GR-SL	SC, SC-SM, CL	A-6, A-1-b	0-8	0-8	63-100	61-100	46-90	22-51	21-35	6-17
	56-64	SL, GRV-SCL, GRV-SL, SCL, GR-SCL, GR-SL	SC, SC-SM	A-1-b, A-6	0-8	0-8	62-100	60-100	45-90	22-51	21-35	6-17
	64-80	L, SL, GRV-L, GRV-SL, GR-L, GR-SCL	CL, GC, GC-GM	A-1-b, A-2-6, A-6	0-8	0-8	48-100	46-100	35-91	17-51	21-35	6-17

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
394: Pleito-----	0-4	SCL, GR-SCL, GR-FSL, FSL	CL, SC, SC-SM	A-7-6, A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	25-41	6-17
	4-8	GR-SCL, FSL, GR-FSL, SCL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	23-38	6-17
	8-18	GR-FSL, FSL, SCL, GR-SCL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-17
	18-25	GR-FSL, GR-SCL, SCL, FSL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-18
	25-32	FSL, SCL, GR- SCL, GR-FSL	SC, SC-SM, CL	A-1-b, A-6	0	0-8	64-100	63-100	47-90	22-51	21-36	6-17
	32-46	GRV-FSL, FSL, SCL, GR-SCL, GR-FSL, GRV- SCL	SC, GC-GM, CL	A-1-b, A-2-6, A-6	0-16	0-8	59-100	57-100	43-90	20-51	21-35	6-17
	46-56	GR-SL, GR-SCL, SCL, GRV-SL, SL, GRV-SCL	SC, SC-SM, CL	A-6, A-1-b	0-8	0-8	63-100	61-100	46-90	22-51	21-35	6-17
	56-64	SCL, GRV-SL, GR-SL, GR-SCL, GRV-SCL, SL	SC, SC-SM	A-1-b, A-6	0-8	0-8	62-100	60-100	45-90	22-51	21-35	6-17
	64-80	L, GR-L, GR- SCL, GRV-L, GRV-SL, SL	CL, GC, GC-GM	A-1-b, A-2-6, A-6	0-8	0-8	48-100	46-100	35-91	17-51	21-35	6-17
Xeric Torriorthents, very gravelly-----	0-2	CBV-SL, CB-SL, GR-SL, GRV-SL, SL	GM, SC-SM	A-1-b, A-4	0-15	0-23	49-92	47-92	36-76	18-43	0-24	NP-6
	2-7	GRV-SL, GR-SL, CB-SL, SL, CBV-SL	SC-SM, GM	A-1-b, A-4	0-15	0-23	49-92	47-92	36-76	18-43	0-23	NP-6
	7-26	CB-SL, GRV-SL, STV-SL, STX- SL, CBX-SL, GRX-SL, CBV- SL, GR-SL	SC-SM, GM	A-1-b, A-4, A-1-a	8-23	8-23	39-91	37-91	28-74	14-42	0-22	NP-6
	26-36	BR	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
395: Pleito-----	0-4	GR-FSL, GR-SCL, SCL, FSL	CL, SC, SC-SM	A-7-6, A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	25-41	6-17
	4-8	GR-FSL, GR-SCL, SCL, FSL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	23-38	6-17
	8-18	FSL, GR-FSL, GR-SCL, SCL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-17
	18-25	FSL, SCL, GR- SCL, GR-FSL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-18
	25-32	GR-FSL, GR-SCL, SCL, FSL	SC, SC-SM, CL	A-1-b, A-6	0	0-8	64-100	63-100	47-90	22-51	21-36	6-17
	32-46	SCL, GR-SCL, GR-FSL, GRV- SCL, GRV-FSL, FSL	SC, GC-GM, CL	A-1-b, A-2-6, A-6	0-16	0-8	59-100	57-100	43-90	20-51	21-35	6-17
	46-56	GR-SL, GR-SCL, SCL, GRV-SL, SL, GRV-SCL	SC, SC-SM, CL	A-6, A-1-b	0-8	0-8	63-100	61-100	46-90	22-51	21-35	6-17
	56-64	GR-SL, GR-SCL, SCL, GRV-SCL, SL, GRV-SL	SC, SC-SM	A-1-b, A-6	0-8	0-8	62-100	60-100	45-90	22-51	21-35	6-17
	64-80	SL, GR-SCL, GR- L, L, GRV-SL, GRV-L	CL, GC, GC-GM	A-1-b, A-2-6, A-6	0-8	0-8	48-100	46-100	35-91	17-51	21-35	6-17
Emidio-----	0-4	L	ML, CL	A-7-6, A-4, A-6	0	0-3	86-100	85-100	71-93	51-69	29-45	9-16
	4-16	L	CL	A-6, A-4, A- 7-6	0	0-3	86-100	85-100	69-90	50-67	30-42	10-17
	16-32	SCL, CL, L	SC, CH	A-6, A-7-6	0	0-3	86-100	85-100	68-97	36-60	31-51	12-25
	32-41	SCL, L, CL	CH, CL	A-6, A-7-6	0	0-3	86-100	85-100	68-96	51-77	31-51	12-25
	41-49	SCL, L	CL, SC-SM	A-6, A-7-6, A-4	0	0-3	86-100	85-100	67-94	47-71	26-43	7-20
	49-65	L, SCL	CL-ML, CL	A-4, A-6	0	0-3	86-100	85-100	73-100	52-76	24-39	7-19

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
395: Loslobos-----	0-2	L, SL, GR-SL, GR-L	SC, SC-SM, SM	A-6, A-2-4	0	0-1	71-100	70-100	51-85	25-48	21-35	3-12
	2-14	GR-SL, GR-COSL, L, SL	SC-SM, SC, SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	14-25	SL, L, GR-COSL, GR-SL	SC-SM, SC, SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	25-41	GRV-COSL, GR- SL, GRV-SL, GR-COSL, L, SL	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0-1	48-100	46-100	34-85	17-48	18-30	3-12
	41-54	L, SL, GR-COSL, GR-SL, GRV- COSL, GRV-SL	SC, SC-SM, GM	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	18-29	3-12
	54-60	LS, GR-COS, GR- COSL, L, GR- LS, GRV-LS, COS, SL, GRV- COS, GRV-SL, GRV-COSL, GR- SL	SC, SC-SM, GM	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	17-29	3-12
396: Pleito-----	0-4	GR-SCL, FSL, SCL, GR-FSL	CL, SC, SC-SM	A-7-6, A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	25-41	6-17
	4-8	FSL, SCL, GR- SCL, GR-FSL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	23-38	6-17
	8-18	FSL, SCL, GR- SCL, GR-FSL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-17
	18-25	FSL, SCL, GR- SCL, GR-FSL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-18
	25-32	GR-FSL, GR-SCL, SCL, FSL	SC, SC-SM, CL	A-1-b, A-6	0	0-8	64-100	63-100	47-90	22-51	21-36	6-17
	32-46	SCL, FSL, GR- SCL, GR-FSL, GRV-SCL, GRV- FSL	SC, GC-GM, CL	A-1-b, A-2-6, A-6	0-16	0-8	59-100	57-100	43-90	20-51	21-35	6-17
	46-56	SL, GRV-SCL, GRV-SL, SCL, GR-SCL, GR-SL	SC, SC-SM, CL	A-6, A-1-b	0-8	0-8	63-100	61-100	46-90	22-51	21-35	6-17
	56-64	SL, GRV-SCL, GRV-SL, SCL, GR-SCL, GR-SL	SC, SC-SM	A-1-b, A-6	0-8	0-8	62-100	60-100	45-90	22-51	21-35	6-17
	64-80	GRV-SL, GRV-L, SL, L, GR-L, GR-SCL	CL, GC, GC-GM	A-1-b, A-2-6, A-6	0-8	0-8	48-100	46-100	35-91	17-51	21-35	6-17

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
396: Loslobos-----	0-2	SL, GR-L, GR- SL, L	SC, SC-SM, SM	A-6, A-2-4	0	0-1	71-100	70-100	51-85	25-48	21-35	3-12
	2-14	GR-SL, SL, L, GR-COSL	SC-SM, SC, SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	14-25	SL, L, GR-COSL, GR-SL	SC-SM, SC, SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	25-41	GR-COSL, L, GR- SL, GRV-SL, GRV-COSL, SL	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0-1	48-100	46-100	34-85	17-48	18-30	3-12
	41-54	GRV-SL, GRV- COSL, SL, GR- SL, GR-COSL, L	SC, SC-SM, GM	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	18-29	3-12
	54-60	SL, LS, GRV- COSL, L, GR- COSL, GR-SL, GRV-SL, GRV- COS, GR-COS, COS, GRV-LS, GR-LS	SC, SC-SM, GM	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	17-29	3-12
398: Calcic Haploxerepts-----	0-4	GR-SICL, SICL, L, CL, GR-CL, GR-L	CH, CL, GC	A-6, A-7-6	0	0	70-100	69-100	56-96	43-77	33-51	13-25
	4-9	L, GR-L, CL, SICL, GR-SICL, GR-CL	CL, GC	A-7-6, A-6	0	0	70-100	69-100	56-96	43-77	32-49	13-25
	9-18	GR-CL, CL, GR- L, GR-SICL, L, SICL	CL, GC	A-7-6, A-2-6	0	0	58-100	56-100	46-96	35-77	32-47	13-25
	18-25	GR-CL, GR-SICL, SICL, L, GR-L, CL	CL, GC	A-7-6, A-6	0	0	70-100	69-100	56-96	43-77	31-46	13-25
	25-37	CL, GR-SICL, SICL, L, GR-L, GR-CL	CL, GC	A-7-6, A-6	0	0	70-100	69-100	56-96	43-77	31-46	13-25
	37-60	GR-L, L, CL, GR-CL, SICL, GR-SICL	GC, CL	A-7-6, A-6	0	0	70-100	69-100	58-100	43-78	31-46	13-25

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
398:												
Calcic Pachic												
Argixerolls, fine-----	0-6	CL	CL, CH	A-6, A-7-6	0	0	100	100	87-99	67-79	39-56	19-28
	6-21	CL	CL, CH	A-7-6, A-6	0	0	95-100	94-100	84-97	65-78	39-52	19-29
	21-44	C, CL, SICL	CH, CL	A-7-6, A-6	0	0	83-100	83-100	68-100	53-86	39-61	20-36
	44-56	GR-CL, GR-SICL, GR-C, CL, SICL, C	CL, GC, CH	A-7-6, A-6	0	0	69-100	68-100	55-100	43-85	38-61	20-37
	56-64	SICL, C, GR- SICL, GR-C, CL, GR-CL	CH, GC	A-7-6, A-6	0	0	69-100	68-100	53-100	42-84	38-60	20-37
Xerorthents, shallow-----	0-8	GR-SCL, SCL	CL, SC	A-7-6, A-6	0	0	100	100	82-96	45-59	30-43	13-24
	8-13	GR-SL, GR-LS, SL, LS	SM, SC	A-4, A-6, A- 2-4	0	0	100	100	68-82	30-44	16-29	2-13
	13-23	WB	---	---	---	---	---	---	---	---	---	---
400:												
Loslobos-----	0-2	GR-L, GR-SL, SL, L	SC, SC-SM, SM	A-6, A-2-4	0	0-1	71-100	70-100	51-85	25-48	21-35	3-12
	2-14	SL, L, GR-COSL, GR-SL	SC-SM, SC, SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	14-25	SL, L, GR-COSL, GR-SL	SC-SM, SC, SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	25-41	GRV-SL, SL, L, GR-COSL, GR- SL, GRV-COSL	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0-1	48-100	46-100	34-85	17-48	18-30	3-12
	41-54	GR-SL, GRV-SL, L, GR-COSL, SL, GRV-COSL	SC, SC-SM, GM	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	18-29	3-12
	54-60	GRV-COSL, SL, L, GRV-SL, GRV-COS, GR- COSL, GR-COS, GR-SL, COS, GRV-LS, GR-LS, LS	SC, SC-SM, GM	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	17-29	3-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
400: Xeric Torriorthents, very gravelly-----	0-2	CBV-SL, GR-SL, SL, CB-SL, GRV-SL	SC-SM, GM	A-1-b, A-4	0-15	0-23	49-92	47-92	36-76	18-43	0-24	NP-6
	2-7	GRV-SL, GR-SL, CB-SL, SL, CBV-SL	SC-SM, GM	A-1-b, A-4	0-15	0-23	49-92	47-92	36-76	18-43	0-23	NP-6
	7-26	STX-SL, STV-SL, GRV-SL, GRX- SL, CBX-SL, CBV-SL, CB-SL, GR-SL	GM, SC-SM	A-1-b, A-4, A-1-a	8-23	8-23	39-91	37-91	28-74	14-42	0-22	NP-6
	26-36	BR	---	---	---	---	---	---	---	---	---	---
Badlands.												
401: Loslobos-----	0-2	SL, L, GR-SL, GR-L	CL, CL-ML, SM	A-6, A-4	0	0-1	71-100	70-100	58-95	40-69	21-35	3-12
	2-14	SL, L, GR-COSL, GR-SL	SC-SM, SC, SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	14-25	L, GR-SL, GR- COSL, SL	SC-SM, SC, SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	25-41	SL, GR-SL, L, GR-COSL, GRV- SL, GRV-COSL	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0-1	48-100	46-100	34-85	17-48	18-30	3-12
	41-54	L, GR-COSL, GR- SL, GRV-COSL, GRV-SL, SL	SC, SC-SM, GM	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	18-29	3-12
	54-60	GR-LS, GRV-LS, COS, GR-COS, LS, GRV-SL, GRV-COS, SL, L, GR-COSL, GRV-COSL, GR- SL	SC, SC-SM, GM	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	17-29	3-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
402: Loslobos-----	0-2	GR-SL, GR-L, L, SL	SC-SM, SM, SC	A-6, A-2-4	0	0-1	71-100	70-100	51-85	25-48	21-35	3-12
	2-14	SL, L, GR-COSL, GR-SL	SC, SM, SC-SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	14-25	GR-COSL, L, SL, GR-SL	SC, SM, SC-SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	25-41	GRV-COSL, GRV- SL, GR-SL, GR- COSL, L, SL	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0-1	48-100	46-100	34-85	17-48	18-30	3-12
	41-54	GR-COSL, GRV- COSL, GRV-SL, GR-SL, L, SL	SC-SM, GM, SC	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	18-29	3-12
	54-60	GR-SL, LS, GR- COSL, L, SL, GRV-COSL, GRV- SL, GRV-COS, GR-LS, GRV-LS, COS, GR-COS	SC-SM, GM, SC	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	17-29	3-12
Walong-----	0-3	BYX-SL, BYV-SL, SL	SM	A-1-b, A-2-4	0-54	0-14	64-100	63-100	---	---	---	---
	3-12	BYX-SL, BYV-SL, SL	SC, SM	A-1-b, A-2-4, A-6	0-54	0-14	64-100	63-100	43-80	20-43	19-32	3-12
	12-29	SL, BYX-SL, BYV-SL	SC, SM	A-6, A-1-b, A-2-6	0-54	0-14	64-100	63-100	43-79	20-42	18-30	3-12
	29-39	WB	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
403: Loslobos-----	0-2	GR-L, GR-SL, SL, L	SC, SC-SM, SM	A-6, A-2-4	0	0-1	71-100	70-100	51-85	25-48	21-35	3-12
	2-14	GR-SL, SL, L, GR-COSL	SC-SM, SC, SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	14-25	GR-SL, GR-COSL, SL, L	SC-SM, SC, SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	25-41	GRV-SL, GRV- COSL, GR-SL, GR-COSL, L, SL	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0-1	48-100	46-100	34-85	17-48	18-30	3-12
	41-54	GR-SL, GR-COSL, L, SL, GRV- COSL, GRV-SL	SC, SC-SM, GM	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	18-29	3-12
	54-60	GR-LS, GRV-LS, COS, GR-COS, GRV-COS, GRV- SL, GRV-COSL, GR-SL, GR- COSL, L, SL, LS	SC, SC-SM, GM	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	17-29	3-12
Calleguas-----	0-7	CL, L	CL, SC	A-7-6, A-6	0	0	78-100	78-100	64-97	49-78	33-48	13-25
	7-15	L, CL	SC, CL	A-6, A-7-6	0	0	78-100	78-100	62-95	46-75	31-46	13-25
	15-60	WB	---	---	---	---	---	---	---	---	---	---
404: Loslobos, moist-----	0-2	GR-SL, GR-L, L, SL	SC, SC-SM, SM	A-6, A-2-4	0	0-1	71-100	70-100	51-85	25-48	21-35	3-12
	2-14	GR-SL, GR-COSL, L, SL	SC-SM, SC, SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	14-25	SL, GR-COSL, GR-SL, L	SC-SM, SC, SM	A-2-4, A-6	0	0-1	71-100	70-100	51-85	25-48	18-31	3-12
	25-41	SL, L, GR-COSL, GRV-COSL, GRV- SL, GR-SL	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0-1	48-100	46-100	34-85	17-48	18-30	3-12
	41-54	GR-COSL, SL, GRV-SL, GRV- COSL, GR-SL, L	SC, SC-SM, GM	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	18-29	3-12
	54-60	GR-SL, GRV- COSL, GRV-SL, GRV-LS, GR-LS, LS, GR-COSL, L, SL, GRV- COS, GR-COS, COS	SC, SC-SM, GM	A-1-b, A-2-4, A-6	0	0-1	48-100	46-100	34-85	17-48	17-29	3-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
430:												
Little signal-----	0-3	SL, L	CL, ML, CL-ML	A-4, A-6	0	0	100	100	81-91	53-63	27-39	6-13
	3-11	SL, L	CL-ML, CL	A-4, A-6	0	0	100	100	80-90	51-61	22-34	6-13
	11-20	L, SL	SC, CL, SC-SM	A-4, A-6, A-2-4	0	0-1	82-100	81-100	58-82	35-54	22-33	6-13
	20-25	SIL, SL	SM, CL-ML, ML	A-4	0	0-1	81-100	80-100	70-95	49-69	0-24	NP-6
	25-35	SIL, L	ML, CL-ML	A-4	0	0-1	81-100	80-100	72-97	54-76	0-23	NP-6
	35-52	PGRX-L, PGRX-SIL	CL-ML, ML	A-4	0	0	100	100	92-100	79-87	0-23	NP-6
	52-60	BR	---	---	---	---	---	---	---	---	---	---
Cochora-----	0-2	L, SL	SC-SM, CL, CL-ML	A-6, A-4	0	0	79-97	78-97	66-90	47-66	21-30	6-12
	2-9	SL, L	CL-ML, CL, SC-SM	A-4, A-6	0	0	79-97	78-97	68-92	48-67	21-30	6-12
	9-15	SL, L	SM, SC-SM	A-2-4, A-4	0	0	79-97	78-97	59-80	31-45	0-22	1-6
	15-25	WB	---	---	---	---	---	---	---	---	---	---
431:												
Little signal-----	0-3	SL, L	ML, CL, CL-ML	A-4, A-6	0	0	100	100	81-91	53-63	27-39	6-13
	3-11	L, SL	CL-ML, CL	A-4, A-6	0	0	100	100	80-90	51-61	22-34	6-13
	11-20	SL, L	SC-SM, CL, SC	A-4, A-6, A-2-4	0	0-1	82-100	81-100	58-82	35-54	22-33	6-13
	20-25	SIL, SL	ML, CL-ML, SM	A-4	0	0-1	81-100	80-100	70-95	49-69	0-24	NP-6
	25-35	SIL, L	ML, CL-ML	A-4	0	0-1	81-100	80-100	72-97	54-76	0-23	NP-6
	35-52	PGRX-SIL, PGRX-L	ML, CL-ML	A-4	0	0	100	100	92-100	79-87	0-23	NP-6
	52-60	BR	---	---	---	---	---	---	---	---	---	---
Cochora-----	0-2	SL, L	SC-SM, CL, CL-ML	A-6, A-4	0	0	79-97	78-97	66-90	47-66	21-30	6-12
	2-9	SL, L	CL-ML, CL, SC-SM	A-4, A-6	0	0	79-97	78-97	68-92	48-67	21-30	6-12
	9-15	L, SL	SM, SC-SM	A-2-4, A-4	0	0	79-97	78-97	59-80	31-45	0-22	1-6
	15-25	WB	---	---	---	---	---	---	---	---	---	---
432:												
Little signal-----	0-3	L, SL	CL-ML, ML, CL	A-4, A-6	0	0	100	100	81-91	53-63	27-39	6-13
	3-11	L, SL	CL-ML, CL	A-4, A-6	0	0	100	100	80-90	51-61	22-34	6-13
	11-20	L, SL	SC, SC-SM, CL	A-4, A-6, A-2-4	0	0-1	82-100	81-100	58-82	35-54	22-33	6-13
	20-25	SL, SIL	CL-ML, SM, ML	A-4	0	0-1	81-100	80-100	70-95	49-69	0-24	NP-6
	25-35	SIL, L	CL-ML, ML	A-4	0	0-1	81-100	80-100	72-97	54-76	0-23	NP-6
	35-52	PGRX-L, PGRX-SIL	CL-ML, ML	A-4	0	0	100	100	92-100	79-87	0-23	NP-6
	52-60	BR	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
432: Badlands.												
Cochora-----	0-2	SL, L	SC-SM, CL, CL-ML	A-6, A-4	0	0	79-97	78-97	66-90	47-66	21-30	6-12
	2-9	SL, L	CL-ML, CL, SC-SM	A-4, A-6	0	0	79-97	78-97	68-92	48-67	21-30	6-12
	9-15	L, SL	SM, SC-SM	A-2-4, A-4	0	0	79-97	78-97	59-80	31-45	0-22	1-6
	15-25	WB	---	---	---	---	---	---	---	---	---	---
440: Elkhills-----												
	0-4	FSL, SL, LCOS	SM, SC, SC-SM	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	SL, FSL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	FSL, SL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	SL, LCOS, FSL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	GR-COSL, GR-LS, COSL, FSL, SL, GR-SL, GRV-SL, LS, GRV-LS, GRV-L, GRV- COSL, GR-FSL, L, GR-L	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	GR-FSL, FSL, GRV-L, GR-L, L, GRV-LS, GR- LS, LS, GRV- COSL, GR-COSL, COSL, SL, GR- SL, GRV-SL	SM, GM, SC-SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6
Pyxo-----												
	0-5	GR-SL, GR-L, SL, L	CL, SC-SM	A-4, A-6	0	0	78-100	77-100	65-92	45-67	21-31	6-12
	5-12	GR-L, L	CL, SC-SM	A-6, A-4	0	0	71-100	70-100	59-92	41-67	21-30	6-12
	12-22	GR-L, L	CL, SC-SM	A-6, A-4	0	0	71-100	70-100	59-92	41-67	21-29	6-12
	22-30	GR-SL, GR-L, SL, L	SC, SC-SM	A-6, A-2-4	0	0	71-100	70-100	52-82	25-44	21-29	6-12
	30-40	WB	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
441: Sodic Haplocambids, thick	0-3	SL, L	ML, CL-ML, CL	A-6, A-4	0	0	92-100	91-100	75-93	52-68	20-33	3-12
	3-12	SL, L	ML, CL, CL-ML	A-4, A-6	0	0	92-100	91-100	75-93	52-68	19-31	3-12
	12-18	SL, L	CL, CL-ML, SM	A-4, A-6	0	0	71-100	69-100	57-93	40-68	19-30	3-12
	18-24	SIL, L, SCL, CL, GR-SCL, GR-CL, GR-L, GR-SL, SL, GR- SIL	GM, CL-ML, CH	A-4, A-7-6	0	0	71-100	69-100	60-100	48-100	19-57	3-36
	24-27	CL, GR-SCL, GR- CL, GR-L, SIL, L, SCL, GR- FSL, FSL, GR- SIL	CH, SC-SM	A-4, A-2-4, A-7-6	0	0	71-100	70-100	62-100	28-82	19-57	4-36
	27-42	GR-SIC, SL, GR- SL, SCL, L, SIC, GR-L, GR- CL, GR-SCL, CL	GC, CH	A-7-6	0	0	70-100	69-100	46-100	43-100	50-60	29-37
	42-54	CL, GR-SCL, GR- CL, GR-L, SIL, L, SCL, GR-SL, SL, GR-SIL	SC, CH	A-7-6, A-2-6, A-6	0	0	71-100	69-100	56-100	31-70	35-58	17-36
	54-61	CL, GR-SCL, GR- CL, GR-L, SIL, L, SCL, GR-SL, SL, GR-SIL	SC, CH	A-6, A-2-6, A-7-6	0	0	71-100	69-100	58-100	33-70	37-58	19-36

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
442: Elkhills-----	0-4	SL, LCOS, FSL	SC, SC-SM, SM	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	SL, FSL, LCOS	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	SL, FSL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	FSL, SL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	LS, GRV-COSL, GR-COSL, GRV- LS, GR-LS, GR- FSL, L, GR-L, GRV-L, GRV-SL, GR-SL, SL, FSL, COSL	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	COSL, GR-COSL, GRV-COSL, FSL, GR-FSL, SL, GR-SL, GRV-SL, GR-L, GRV-LS, GR-LS, GRV-L, L, LS	SM, GM, SC-SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6
443: Elkhills-----	0-4	SL, LCOS, FSL	SC, SC-SM, SM	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	LCOS, SL, FSL	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	SL, FSL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	SL, LCOS, FSL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	GR-COSL, GRV-L, GRV-COSL, GRV- LS, COSL, GR- FSL, GR-L, L, LS, GRV-SL, GR-SL, SL, FSL, GR-LS	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	GRV-SL, GR-SL, SL, GR-FSL, GRV-L, GR-L, GR-COSL, COSL, FSL, GR-LS, GRV-LS, GRV- COSL, L, LS	SM, GM, SC-SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6
Badlands.												

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
444: Elkhills-----	0-4	SL, FSL, LCOS	SC, SC-SM, SM	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	LCOS, FSL, SL	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	LCOS, FSL, SL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	SL, LCOS, FSL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	COSL, FSL, SL, GR-SL, GRV-SL, LS, GR-LS, GRV-LS, GR- COSL, GRV- COSL, GR-FSL, GR-L, L, GRV-L	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	GR-FSL, SL, GR- SL, GRV-SL, LS, FSL, L, GR-L, GR-COSL, COSL, GRV- COSL, GRV-LS, GR-LS, GRV-L	SM, GM, SC-SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
445: Sodic Haplocambids, thick-----	0-3	SL, L	CL-ML, CL, ML	A-6, A-4	0	0	92-100	91-100	75-93	52-68	20-33	3-12
	3-12	SL, L	CL-ML, ML, CL	A-4, A-6	0	0	92-100	91-100	75-93	52-68	19-31	3-12
	12-18	L, SL	CL, CL-ML, SM	A-4, A-6	0	0	71-100	69-100	57-93	40-68	19-30	3-12
	18-24	CL, GR-SCL, GR- CL, GR-L, GR- SL, SL, GR- SIL, L, SIL, SCL	GM, CL-ML, CH	A-4, A-7-6	0	0	71-100	69-100	60-100	48-100	19-57	3-36
	24-27	GR-SCL, GR-CL, GR-L, SIL, L, SCL, GR-FSL, FSL, GR-SIL, CL	SC-SM, CH	A-4, A-2-4, A-7-6	0	0	71-100	70-100	62-100	28-82	19-57	4-36
	27-42	GR-CL, SIC, L, SCL, GR-SCL, SL, GR-SIC, CL, GR-SL, GR- L	GC, CH	A-7-6	0	0	70-100	69-100	46-100	43-100	50-60	29-37
	42-54	GR-L, SIL, L, SCL, GR-SL, SL, GR-SIL, GR-CL, GR-SCL, CL	SC, CH	A-7-6, A-2-6, A-6	0	0	71-100	69-100	56-100	31-70	35-58	17-36
	54-61	GR-SCL, CL, GR- L, SIL, L, SCL, GR-SL, SL, GR-CL, GR- SIL	CH, SC	A-6, A-2-6, A-7-6	0	0	71-100	69-100	58-100	33-70	37-58	19-36

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
445: Elkhills-----	0-4	LCOS, FSL, SL	SC, SC-SM, SM	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	FSL, LCOS, SL	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	LCOS, FSL, SL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	SL, FSL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	L, GR-L, GRV-L, COSL, GR-FSL, FSL, SL, GR- SL, GRV-SL, LS, GRV-COSL, GR-COSL, GRV- LS, GR-LS	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	GR-FSL, FSL, GRV-COSL, GR- COSL, GR-L, GRV-LS, COSL, SL, GR-SL, GR- LS, GRV-SL, LS, GRV-L, L	SM, GM, SC-SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6
451: Beam-----	0-4	ST-SL, SL, ST- L, FSL, ST- FSL, L	CL, SC-SM, SC	A-6, A-2-4, A-4	0-15	0-15	81-100	80-100	72-100	30-51	24-37	7-17
	4-15	L, ST-L, ST- FSL, FSL	SC-SM, SC	A-6, A-2-4	0-15	0-15	81-100	80-100	71-100	29-49	23-36	7-17
	15-25	WB	---	---	---	---	---	---	---	---	---	---
Panoza-----	0-6	ST-L, L	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-38	12-17
	6-18	SL, ST-SL, ST- L, L	CL, SC	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-36	12-17
	18-24	SL, ST-SL, ST- L, L	CL, SC	A-6	0-23	0-29	81-100	80-100	68-92	49-69	28-36	12-17
	24-34	WB	---	---	---	---	---	---	---	---	---	---
Hillbrick-----	0-4	L, GR-L	CL-ML, CL	A-6, A-4	0	0	100	100	84-92	58-66	20-30	6-12
	4-15	L, GR-L	CL, SC-SM	A-4, A-6	0	0	77-100	76-100	64-92	44-66	20-29	6-12
	15-25	BR	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>											
460: Geghus-----	0-2	L, SIL, SL	CL, CL-ML	A-7-6, A-6, A-4	0	0-10	93-100	93-100	76-95	54-71	27-43	7-17
	2-6	SIL, SL, L	CL, CL-ML	A-6, A-4, A- 7-6	0	0-10	93-100	93-100	76-95	54-71	26-41	7-17
	6-15	SIL, CL, L	CL, CL-ML	A-6, A-4, A- 7-6	0	0-10	94-100	93-100	74-100	52-84	24-50	7-28
	15-29	SIL, CL, L	CL, CH	A-6, A-7-6	0	0-10	94-100	93-100	78-100	60-84	32-51	13-29
	29-44	CL, L, SIL	CL, CH	A-6, A-7-6	0	0-10	94-100	93-100	78-100	60-84	31-51	13-29
	44-54	CL, SIL, L	CL	A-6, A-7-6	0	0-10	94-100	93-100	78-100	60-84	31-50	13-29
	54-62	CL, L, SIL	CL	A-6, A-7-6	0	0-10	94-100	93-100	81-100	60-84	31-50	13-29
Tecuya-----	0-3	CB-L, L, CB- SIL, SIL	CL-ML, ML, CL	A-6, A-4	0	2-13	79-93	78-93	70-93	55-77	19-33	2-12
	3-9	SIL, CB-L, CB- SIL, L	CL-ML, CL, ML	A-4, A-6	0	2-13	79-93	78-93	70-93	55-77	18-32	2-12
	9-28	L, CBV-SIL, SIL, CBV-L	CL-ML, CL	A-4, A-7-6	0	19-42	72-92	70-92	62-92	50-83	22-41	6-21
	28-38	CBV-SIL, CB-L, SIL, L	CL	A-6	0	19-42	72-92	70-92	65-92	54-81	28-40	12-21
	38-60	CBX-L, CBX-CL	CL	A-6	0	67-92	100	100	87-99	63-75	28-40	12-21
461: Geghus-----	0-2	L, SL, SIL	CL-ML, CL	A-7-6, A-6, A-4	0	0-7	93-100	93-100	76-95	54-71	27-43	7-17
	2-6	L, SL, SIL	CL-ML, CL	A-6, A-4, A- 7-6	0	0-7	93-100	93-100	76-95	54-71	26-41	7-17
	6-15	L, CL, SIL	CL, CL-ML	A-6, A-4, A- 7-6	0	0-6	94-100	93-100	74-100	52-84	24-50	7-28
	15-29	SIL, CL, L	CL, CH	A-6, A-7-6	0	0-6	94-100	93-100	78-100	60-84	32-51	13-29
	29-44	SIL, CL, L	CL, CH	A-6, A-7-6	0	0-6	94-100	93-100	78-100	60-84	31-51	13-29
	44-54	SIL, CL, L	CL	A-6, A-7-6	0	0-6	94-100	93-100	78-100	60-84	31-50	13-29
	54-62	L, SIL, CL	CL	A-6, A-7-6	0	0-6	94-100	93-100	81-100	60-84	31-50	13-29
Tecuya-----	0-3	CB-L, CB-SIL, L, SIL	ML, CL, CL-ML	A-6, A-4	0	2-13	79-93	78-93	70-93	55-77	19-33	2-12
	3-9	L, CB-SIL, CB- L, SIL	CL-ML, CL, ML	A-4, A-6	0	2-13	79-93	78-93	70-93	55-77	18-32	2-12
	9-28	CBV-SIL, CBV-L, CB-L, CB-SIL	CL, CL-ML	A-4, A-7-6	0	19-42	72-92	70-92	62-92	50-83	22-41	6-21
	28-38	CBV-L, CBV-SIL, CB-L, CB-SIL	CL	A-6	0	19-42	72-92	70-92	65-92	54-81	28-40	12-21
	38-60	CBX-CL, CBX-L	CL	A-6	0	67-92	100	100	87-99	63-75	28-40	12-21

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
462: Geghus-----	0-2	L, SIL, SL	CL-ML, CL	A-7-6, A-6, A-4	0	0-7	93-100	93-100	76-95	54-71	27-43	7-17
	2-6	L, SL, SIL	CL, CL-ML	A-6, A-4, A- 7-6	0	0-7	93-100	93-100	76-95	54-71	26-41	7-17
	6-15	L, CL, SIL	CL, CL-ML	A-6, A-4, A- 7-6	0	0-6	94-100	93-100	74-100	52-84	24-50	7-28
	15-29	SIL, L, CL	CL, CH	A-6, A-7-6	0	0-6	94-100	93-100	78-100	60-84	32-51	13-29
	29-44	L, CL, SIL	CH, CL	A-6, A-7-6	0	0-6	94-100	93-100	78-100	60-84	31-51	13-29
	44-54	SIL, L, CL	CL	A-6, A-7-6	0	0-6	94-100	93-100	78-100	60-84	31-50	13-29
	54-62	L, CL, SIL	CL	A-6, A-7-6	0	0-6	94-100	93-100	81-100	60-84	31-50	13-29
Xeric Torriorthents, very gravelly-----	0-2	GRV-SL, CBV-SL, SL, CB-SL, GR- SL	SC-SM, GM	A-1-b, A-4	0-15	0-23	49-92	47-92	36-76	18-43	0-24	NP-6
	2-7	GR-SL, CB-SL, SL, CBV-SL, GRV-SL	GM, SC-SM	A-1-b, A-4	0-15	0-23	49-92	47-92	36-76	18-43	0-23	NP-6
	7-26	CBV-SL, GRX-SL, CBX-SL, STX- SL, STV-SL, GRV-SL, GR-SL, CB-SL	GM, SC-SM	A-1-a, A-1-b, A-4	8-23	8-23	40-91	37-91	28-74	14-42	0-22	NP-6
	26-36	BR	---	---	---	---	---	---	---	---	---	---
470: Pyxo-----	0-5	SL, L, GR-L, GR-SL	CL, SC-SM	A-4, A-6	0	0	78-100	77-100	65-92	45-67	21-31	6-12
	5-12	GR-L, L	CL, SC-SM	A-6, A-4	0	0	71-100	70-100	59-92	41-67	21-30	6-12
	12-22	GR-L, L	CL, SC-SM	A-6, A-4	0	0	71-100	70-100	59-92	41-67	21-29	6-12
	22-30	GR-SL, GR-L, SL, L	SC, SC-SM	A-6, A-2-4	0	0	71-100	70-100	52-82	25-44	21-29	6-12
	30-40	WB	---	---	---	---	---	---	---	---	---	---
Cochora-----	0-2	SL, GR-FSL, FSL, L, GR-L, GR-SL	CL, CL-ML, SC-SM	A-6, A-4	0	0	71-100	69-100	58-94	41-69	19-31	4-12
	2-9	SL, FSL, L, GR- L, GR-SL, GR- FSL	SC-SM, CL, CL-ML	A-4, A-6	0	0	71-100	69-100	58-93	40-68	19-30	4-12
	9-15	L, GR-L, GR-SL, SL	SM, SC, SC-SM	A-2-4, A-6	0	0	71-100	70-100	51-85	24-48	17-29	2-12
	15-25	WB	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
						Pct	Pct				Pct	
	In											
471: Pyxo-----	0-5	L, SL, GR-L, GR-SL	CL, SC-SM	A-4, A-6	0	0	78-100	77-100	65-92	45-67	21-31	6-12
	5-12	L, GR-L	CL, SC-SM	A-6, A-4	0	0	71-100	70-100	59-92	41-67	21-30	6-12
	12-22	GR-L, L	SC-SM, CL	A-6, A-4	0	0	71-100	70-100	59-92	41-67	21-29	6-12
	22-30	GR-L, GR-SL, SL, L	SC-SM, SC	A-6, A-2-4	0	0	71-100	70-100	52-82	25-44	21-29	6-12
	30-40	WB	---	---	---	---	---	---	---	---	---	---
Cochora-----	0-2	FSL, GR-FSL, SL, GR-SL, GR- L, L	CL, CL-ML, SC-SM	A-6, A-4	0	0	71-100	69-100	58-94	41-69	19-31	4-12
	2-9	GR-SL, SL, GR- FSL, GR-L, L, FSL	CL-ML, CL, SC-SM	A-4, A-6	0	0	71-100	69-100	58-93	40-68	19-30	4-12
	9-15	GR-SL, GR-L, L, SL	SC-SM, SC, SM	A-2-4, A-6	0	0	71-100	70-100	51-85	24-48	17-29	2-12
	15-25	WB	---	---	---	---	---	---	---	---	---	---
Badlands.												
472: Pyxo-----	0-5	L, SL, GR-L, GR-SL	SC-SM, CL	A-4, A-6	0	0	78-100	77-100	65-92	45-67	21-31	6-12
	5-12	L, GR-L	CL, SC-SM	A-6, A-4	0	0	71-100	70-100	59-92	41-67	21-30	6-12
	12-22	GR-L, L	CL, SC-SM	A-6, A-4	0	0	71-100	70-100	59-92	41-67	21-29	6-12
	22-30	GR-SL, GR-L, SL, L	SC, SC-SM	A-6, A-2-4	0	0	71-100	70-100	52-82	25-44	21-29	6-12
	30-40	WB	---	---	---	---	---	---	---	---	---	---
Kimberlina-----	0-10	FSL, GR-FSL, GRV-FSL, GR- SL, GRV-SL, SL	GM, SC	A-6, A-1-b, A-4	0	0-1	49-100	47-100	32-81	15-43	18-31	3-12
	10-19	GR-SL, SL, GRV- FSL, GRV-SL	SC, GM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	32-81	15-43	18-30	3-12
	19-28	GRV-FSL, SL, GRV-SL, GR-SL, GR-FSL, FSL	SC-SM, SC, GM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	33-82	15-44	18-30	3-12
	28-45	SL, GRV-SL, GR- SL, GRV-FSL, GR-FSL, FSL	GM, SC, SC-SM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	35-85	17-48	18-29	3-12
	45-60	GRV-FSL, SL, GRV-SL, GR-SL, FSL, GR-FSL	GM, SC, SC-SM	A-4, A-1-b, A-6	0	0-1	49-100	47-100	35-87	17-48	17-29	3-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
472: Cochora-----	0-2	L, SL	SC-SM, CL, CL-ML	A-6, A-4	0	0	79-97	78-97	66-90	47-66	21-30	6-12
	2-9	L, SL	CL-ML, CL, SC-SM	A-4, A-6	0	0	79-97	78-97	68-92	48-67	21-30	6-12
	9-15	L, SL	SM, SC-SM	A-2-4, A-4	0	0	79-97	78-97	59-80	31-45	0-22	1-6
	15-25	WB	---	---	---	---	---	---	---	---	---	---
480: Pyxo, dry-----	0-5	GR-SL, SL, GR- L, L	CL, SC-SM	A-4, A-6	0	0	78-100	77-100	65-92	45-67	21-31	6-12
	5-12	GR-L, L	SC-SM, CL	A-6, A-4	0	0	71-100	70-100	59-92	41-67	21-30	6-12
	12-22	L, GR-L	CL, SC-SM	A-6, A-4	0	0	71-100	70-100	59-92	41-67	21-29	6-12
	22-30	L, SL, GR-L, GR-SL	SC, SC-SM	A-6, A-2-4	0	0	71-100	70-100	52-82	25-44	21-29	6-12
	30-40	WB	---	---	---	---	---	---	---	---	---	---
Elkhills-----	0-4	SL, FSL, LCOS	SC-SM, SM, SC	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	SL, LCOS, FSL	SC-SM, SM, SC	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	LCOS, FSL, SL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	LCOS, FSL, SL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	GR-L, GR-SL, GRV-L, GRV-LS, GR-COSL, L, GR-FSL, GRV- COSL, GR-LS, COSL, FSL, SL, GRV-SL, LS	SC, GM, SC-SM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	GR-COSL, COSL, FSL, GRV-COSL, SL, GR-L, GR- FSL, GRV-L, GR-SL, L, GRV- LS, GR-LS, LS, GRV-SL	SM, SC-SM, GM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
490: Padres-----	0-3	SL, GR-SL, FSL, GR-FSL	SC, SC-SM	A-6, A-2-4	0	0-5	77-100	76-100	55-82	26-44	20-31	4-12
	3-16	SL, GR-SL, FSL, GR-FSL	SC-SM, SC	A-2-4, A-6	0	0-5	77-100	76-100	55-82	26-44	19-30	4-12
	16-30	GR-SL, GRV-FSL, GRV-SL, GRV-L, GR-L, GRV- COSL, GR-COSL, GR-FSL	GC-GM, SC	A-2-4, A-2-6, A-1-b	0	0-4	54-78	52-77	30-52	16-32	19-29	4-12
	30-38	GR-COSL, GR-L, COSL, SL, GR- SL, FSL, GR- FSL, L	CL, SC-SM	A-4, A-6	0	0-5	77-100	76-100	61-91	42-66	19-29	4-12
	38-46	GR-SL, FSL, GR- FSL, L, GR-L, SL, COSL, GR- COSL	SC-SM, SC	A-2-4, A-6	0	0-5	77-100	76-100	55-82	26-44	19-29	4-12
	46-62	GR-SL, GR-COSL, GRV-COSL, GR- L, GRV-L, GR- FSL, GRV-FSL, GRV-SL	GC-GM, SC	A-2-6, A-2-4, A-1-b	0	0-4	54-78	52-77	30-52	16-32	19-29	4-12
500: Bitcreek-----	0-3	SCL, GR-L, L, GR-SL, GR-SCL, SL, GR-CL	SC, CH	A-2-6, A-7-6	0	0	78-100	77-100	60-95	33-59	34-53	13-25
	3-8	L, GR-SCL, GR- CL, GR-L, SCL	CL, SC	A-7-6, A-2-6, A-6	0	0	78-100	77-100	60-95	33-59	31-49	13-25
	8-19	GR-CL, L, GR- SCL, SCL, GR-L	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	59-93	32-58	31-48	13-25
	19-31	L, GR-SCL, GR- L, SCL, GR-CL	SC, CL	A-2-6, A-7-6	0	0	78-100	77-100	55-88	29-54	30-47	13-25
	31-38	GR-SCL, L, GR- CL, SCL, GR-L	SC, CL	A-6, A-7-6, A-2-6	0	0	78-100	77-100	59-93	32-58	30-46	13-25
	38-60	GR-L, SCL, GR- SCL, L, GR-CL, GR-C, C	CH, SC	A-6, A-7-6	0	0	76-100	75-100	47-98	38-86	32-65	13-40

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
510: Beam-----	0-4	ST-L, L, ST- FSL, SL, FSL, ST-SL	CL, SC-SM, SC	A-2-4, A-6	0-15	0-15	81-100	80-100	72-100	30-51	24-37	7-17
	4-15	ST-FSL, FSL, L, ST-L	SC-SM, SC	A-6, A-2-4	0-15	0-15	81-100	80-100	71-100	29-49	23-36	7-17
	15-25	WB	---	---	---	---	---	---	---	---	---	---
Panoza-----	0-6	ST-L, L	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-38	12-17
	6-18	SL, L, ST-SL, ST-L	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-36	12-17
	18-24	SL, ST-SL, ST- L, L	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	28-36	12-17
	24-34	WB	---	---	---	---	---	---	---	---	---	---
Hillbrick-----	0-4	GR-L, L	CL-ML, CL	A-6, A-4	0	0	100	100	84-92	58-66	20-30	6-12
	4-15	GR-L, L	CL, SC-SM	A-4, A-6	0	0	77-100	76-100	64-92	44-66	20-29	6-12
	15-25	BR	---	---	---	---	---	---	---	---	---	---
511: Beam-----	0-4	ST-L, ST-SL, L, SL, ST-FSL, FSL	SC-SM, SC	A-6, A-2-4, A-4	0-15	0-15	81-100	80-100	72-100	30-51	24-37	7-17
	4-15	ST-L, L, ST- FSL, FSL	SC-SM, SC	A-6, A-2-4	0-15	0-15	81-100	80-100	71-100	29-49	23-36	7-17
	15-25	WB	---	---	---	---	---	---	---	---	---	---
Panoza-----	0-6	ST-L, L	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-38	12-17
	6-18	SL, ST-SL, L, ST-L	CL, SC	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-36	12-17
	18-24	SL, ST-L, ST- SL, L	CL, SC	A-6	0-23	0-29	81-100	80-100	68-92	49-69	28-36	12-17
	24-34	WB	---	---	---	---	---	---	---	---	---	---
Hillbrick-----	0-4	GR-L, L	CL-ML, CL	A-6, A-4	0	0	100	100	84-92	58-66	20-30	6-12
	4-15	L, GR-L	CL, SC-SM	A-4, A-6	0	0	77-100	76-100	64-92	44-66	20-29	6-12
	15-25	BR	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
515: Zonap-----	0-3	GR-SL, SL, GR- FSL, FSL	SC-SM, SC	A-4, A-6, A- 2-4	0	0	71-100	70-100	61-96	25-44	22-32	6-12
	3-10	FSL, GR-FSL, SL, GR-SL	SC, GC-GM	A-2-4, A-6, A-4	0	0	59-100	58-100	51-96	21-44	21-30	6-12
	10-26	FSL, GR-FSL, SL, GR-SL, GRV-FSL, GRV- SL	GC-GM, SC	A-1-b, A-6, A-4	0	0	39-100	37-100	32-96	13-44	21-29	6-12
	26-36	WB	---	---	---	---	---	---	---	---	---	---
Badlands.												
Beam-----	0-3	GR-SL, SL, FSL, GR-FSL	GC-GM, SC, SC-SM	A-2-4, A-1-b, A-6	0	0	54-100	52-100	46-99	18-45	20-31	4-12
	3-15	FSL, GR-FSL, CB-FSL	SC-SM, SC	A-2-4, A-6	0	0-29	67-100	66-100	58-99	23-45	19-30	4-12
	15-25	WB	---	---	---	---	---	---	---	---	---	---
516: Zonap-----	0-3	GR-SL, SL, FSL, GR-FSL	SC-SM, SC	A-4, A-6, A- 2-4	0	0	71-100	70-100	61-96	25-44	22-32	6-12
	3-10	SL, GR-SL, GR- FSL, FSL	GC-GM, SC	A-2-4, A-6, A-4	0	0	59-100	58-100	51-96	21-44	21-30	6-12
	10-26	GRV-SL, GR-FSL, GRV-FSL, GR- SL, FSL, SL	SC, GC-GM	A-1-b, A-6, A-4	0	0	39-100	37-100	32-96	13-44	21-29	6-12
	26-36	WB	---	---	---	---	---	---	---	---	---	---
Beam-----	0-3	GR-FSL, FSL, SL, GR-SL	SC-SM, GC-GM, SC	A-2-4, A-1-b, A-6	0	0	54-100	52-100	46-99	18-45	20-31	4-12
	3-15	CB-FSL, FSL, GR-FSL	SC, SC-SM	A-2-4, A-6	0	0-29	67-100	66-100	58-99	23-45	19-30	4-12
	15-25	WB	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
530: Tehachapi-----	0-1	GR-SL, L, GR-L, SL	GC, CL	A-4, A-7-6, A-6	0-3	0-3	62-100	61-100	52-96	37-72	29-41	9-17
	1-5	CL, GR-CL, SCL, GRV-CL, GRV- SCL, GR-SCL	CL, GC	A-2-6, A-7-6	0-5	0-9	54-100	52-100	42-95	23-59	33-49	13-25
	5-19	SCL, GR-CL, CL, GR-SCL, GRV- SCL, GRV-CL	GC, CL	A-2-6, A-7-6	0-9	0-17	51-100	49-100	37-90	20-55	32-48	13-25
	19-24	SCL, GR-SCL, GRV-CL, GRV- SCL, GR-CL, CL	GC, CL	A-2-6, A-7-6	0-9	0-17	51-100	49-100	37-90	20-55	32-47	13-25
	24-34	STX-SCL, ST- SCL, STV-SCL	GC	A-2-6, A-7-6	17-28	17-28	47-80	45-79	36-75	20-46	29-44	13-24
	34-48	ST-SCL, STV- SCL, STX-SCL	GC	A-2-6, A-7-6	17-39	17-28	57-80	55-79	45-76	25-47	29-43	13-24
	48-60	STX-SCL, STV- SCL, ST-SCL	GC	A-2-6, A-7-6	17-40	17-28	40-80	38-79	32-79	17-48	29-43	13-24
531: Tehachapi-----	0-1	SL, GR-L, L, GR-SL	CL, GC	A-7-6, A-6, A-4	0-3	0-3	62-100	61-100	52-96	37-72	29-41	9-17
	1-5	GRV-SCL, SCL, GR-CL, CL, GR- SCL, GRV-CL	SC, CL, GC	A-2-6, A-2-7, A-7-6	0-5	0-9	54-100	52-100	42-95	23-59	33-49	13-25
	5-19	GR-SCL, GRV- SCL, SCL, GR- CL, CL, GRV-CL	GC, CL, SC	A-7-6, A-2-6, A-2-7	0-9	0-17	51-100	49-100	37-90	20-55	32-48	13-25
	19-24	CL, GRV-SCL, GR-SCL, GRV- CL, GR-CL, SCL	CL, GC, SC	A-7-6, A-2-6, A-2-7	0-9	0-17	51-100	49-100	37-90	20-55	32-47	13-25
	24-34	STV-SCL, STX- SCL, ST-SCL	GC	A-2-6, A-7-6	17-32	17-32	44-80	41-79	33-75	18-46	29-44	13-24
	34-48	STX-SCL, ST- SCL, STV-SCL	GC	A-2-6, A-7-6	17-44	17-32	53-80	51-79	42-76	23-47	29-43	13-24
	48-60	STX-SCL, STV- SCL, ST-SCL	GC	A-2-6, A-7-6	17-44	17-32	37-80	35-79	30-79	16-48	29-43	13-24
540: Xeric Torriorthents-----	0-10	CN-SL	SC, GC-GM	A-1-b, A-2-4	0	0	60-85	58-84	43-66	21-34	20-25	5-10
	10-24	GRV-SL, CNV-L	GC, GC-GM, CL	A-2-4, A-1-b, A-4	0	0	39-84	36-84	30-78	21-57	20-30	5-10
	24-43	GRX-L, GRX-SL	GP-GC, GP, GC	A-2-4, A-1-a	0	0	16-48	12-46	9-38	4-21	20-30	5-10
	43-53	UWB	---	---	---	---	---	---	---	---	---	---
Badlands.												

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
550: Elkhills-----	0-4	SL, FSL, LCOS	SC, SC-SM, SM	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	LCOS, FSL, SL	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	LCOS, FSL, SL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	FSL, SL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	L, GR-COSL, GRV-L, GR-L, GR-FSL, GRV- COSL, GRV-LS, GR-LS, LS, GRV-SL, GR-SL, SL, FSL, COSL	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	GR-COSL, COSL, LS, GRV-SL, GR-LS, GRV-LS, L, GR-L, GRV- L, GR-SL, SL, GR-FSL, FSL, GRV-COSL	SM, GM, SC-SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6
Welport-----	0-3	SL, GR-SL	SM, SC, SC-SM	A-6, A-2-4	0	0	78-92	77-92	56-79	27-44	20-35	2-12
	3-9	GR-SL, SL	SC-SM, SC, SM	A-2-4, A-6	0	0	78-92	77-92	56-79	27-44	18-32	2-12
	9-12	GR-SL, SL	SC-SM, SC, SM	A-2-4, A-6	0	0	78-92	77-92	57-80	27-45	17-29	2-12
	12-27	IND		A-1-a	---	---	---	---	---	---	---	---
	27-60	GRV-SL, CB-SL, SL, GR-SL	SC-SM, GM, SC	A-2-4, A-6, A-1-b	0	8-23	54-84	52-83	38-73	18-41	17-29	2-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
560: Laval-----	In											
	0-4	SL	SC, SC-SM	A-6, A-2-4	0	0	85-100	84-100	62-82	30-44	23-34	6-12
	4-13	GR-COS, GR-LS, GR-LCOS, GRV- LCOS, GR-SL, GR-S, GR-COSL, GRX-COSL, GRV- COSL, GRX- LCOS, GRX-SL, GRV-SL, GRX- LS, GRV-LS, GRX-COS, GRV- COS, GRV-S, GRX-S	GP, GP-GC, GC	A-2-4, A-2-6, A-1-a	0	0	16-71	13-70	9-58	4-31	17-33	1-12
	13-20	GRX-LCOS, GRX- SL, GRV-SL, GRX-LS, GRV- LS, LCOS, GRV- COSL, CBV-SL, CBX-SL, CBX- LCOS, CBV- LCOS, GRX- COSL, GR-S, GR-LCOS, GR- COS, GR-SL, GRV-S, GRX-S, GRV-COS, GRX- COS, SL, GR- COSL, GR-LS, GRV-LCOS	GC, GC-GM, GW-GM	A-1-a, A-2-4, A-2-6	0	0	31-71	28-70	15-47	8-29	15-30	1-12
	20-23	S, COS, LCOS, GRV-S, GRV- COSL, LS, SL, COSL, GRX-S, GRV-COS, GRX- COS, GRX-COSL, GR-S, GR-COS, GRV-LCOS, GR- LCOS, GR-LS, GR-SL, GR- COSL, GRX- LCOS, GRV-SL, GRX-SL, GRV- LS, GRX-LS	SC-SM, SM, GW-GM	A-1-a, A-1-b	0	0	32-85	29-84	15-50	6-21	15-22	1-6

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		<i>In</i>			<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
560: Laval-----	23-32	GR-LCOS, GR-LS, GRX-LCOS, GRV- COSL, GR-S, GRV-SL, GRV- LCOS, GR-COS, GRV-S, GRX-LS, GRX-S, GRV- COS, GRX-COS, GRX-SL, GRV- LS, GRX-COSL, GR-COSL, GR-SL	GP, SP-SC	A-1-a, A-1-b	0	0	17-73	13-71	6-39	1-12	15-22	1-6
	32-48	GRV-LCOS, GR-S, GRX-COSL, GRV- COSL, GRX- LCOS, GRX-SL, GRV-SL, GR- LCOS, GRV-S, GRX-S, GRV- COS, GR-COS, GRV-LS, GRX- COS, GRX-LS, GR-COSL, GR- LS, GR-SL	SC-SM, GP	A-1-a, A-1-b	0	0	17-72	13-71	7-42	3-18	15-23	1-6
	48-62	GRX-S, GRV-COS, GRX-COS, GRV- SL, GRX-SL, GRV-LS, GRX- LS, GRV-S, GRX-LCOS, GRV- COSL, GRX- COSL, GR-S, GR-COS, GRV- LCOS, GR-LCOS, GR-LS, GR-SL, GR-COSL	GP, GW-GM, SC-SM	A-1-a, A-1-b	0	0	17-72	13-71	7-42	3-18	15-22	1-6

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
560: Pleitito-----	0-3	SL	SC-SM, SM	A-2-4, A-4	0	0	88-100	88-100	66-83	34-46	0-25	NP-6
	3-8	SL	SM, SC-SM	A-4, A-2-4	0	0	85-100	84-100	63-83	33-46	0-23	NP-6
	8-11	SR: S to FSL	SC-SM, SM	A-4	0	0	92-100	91-100	69-83	36-46	0-23	NP-6
	11-18	GR-S, GRV-S, S	GP, SP-SM	A-2-4, A-1-b, A-1-a	0	0	40-85	38-84	29-67	3-9	0-19	NP-2
	18-21	SR: GRV-S to FSL	SM, GM	A-1-a, A-4	0	0	40-92	38-92	28-72	15-38	0-19	NP-2
	21-29	GR-COSL, GRV- COSL, COSL	GP-GM, GC-GM, SC-SM	A-1-a, A-2-4	0	0	39-85	37-84	22-53	12-31	16-25	2-6
	29-48	SL, GR-SL	SC-SM, SM	A-2-4, A-4	0	0	71-92	70-92	51-72	25-37	16-22	2-6
	48-65	GR-SL, SL	SM, SC-SM	A-4, A-2-4	0	0	71-92	70-92	51-72	25-37	16-22	2-6
561: Laval-----	0-4	SL	SC-SM, SC	A-6, A-2-4	0	0	85-100	84-100	62-82	30-44	23-34	6-12
	4-13	GR-S, GRV-LS, GR-SL, GRV- COS, GRX-COS, GRX-S, GRV- LCOS, GR-COS, GR-COSL, GRX- COSL, GRV- COSL, GRX- LCOS, GRX-SL, GRV-S, GR- LCOS, GRV-SL, GR-LS, GRX-LS	GP-GC, GC, GP	A-2-4, A-2-6, A-1-a	0	0	16-71	13-70	9-58	4-31	17-33	1-12
	13-20	CBV-SL, CBX-SL, CBX-LCOS, CBV- LCOS, GR-LCOS, LCOS, GR-SL, GR-COS, SL, GR-COSL, GR- LS, GRV-LCOS, GRV-COSL, GRX- LCOS, GRX-SL, GRX-COSL, GRX- LS, GRV-LS, GRV-SL, GRX- COS, GRV-COS, GR-S, GRV-S, GRX-S	GC, GC-GM, GW-GM	A-1-a, A-2-4, A-2-6	0	0	31-71	28-70	15-47	8-29	15-30	1-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
561: Laval-----	20-23	LS, SL, COSL, LCOS, GRV-S, GRX-S, GRV- COS, GRX-COS, GRV-SL, GRX- SL, GRV-LS, GRX-LS, GRX- LCOS, GRV- COSL, GRX- COSL, GR-S, GR-COS, GRV- LCOS, GR-LCOS, GR-LS, GR-SL, COS, S, GR- COSL	SC-SM, GW-GM, SM	A-1-a, A-1-b	0	0	32-85	29-84	15-50	6-21	15-22	1-6
	23-32	GR-LS, GRV-S, GRX-SL, GRX- LCOS, GRV- COSL, GRX-S, GRV-COS, GRX- COS, GRX-COSL, GR-S, GRV-SL, GRV-LS, GR- COS, GRX-LS, GR-LCOS, GR- SL, GRV-LCOS, GR-COSL	SP-SC, GP	A-1-a, A-1-b	0	0	17-73	13-71	6-39	1-12	15-22	1-6
	32-48	GRX-LS, GRV-SL, GRX-SL, GRV- LS, GRV-COSL, GRX-LCOS, GRX- S, GRV-COS, GRX-COS, GRV- S, GR-S, GR- COS, GR-SL, GR-LS, GR- LCOS, GR-COSL, GRX-COSL, GRV- LCOS	SC-SM, GP	A-1-a, A-1-b	0	0	17-72	13-71	7-42	3-18	15-23	1-6

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
561: Laval-----	48-62	GRV-LCOS, GR- COS, GRX-SL, GRX-LCOS, GRV- COSL, GRX-LS, GR-LCOS, GRV- SL, GRX-COS, GRV-COS, GR- LS, GRV-LS, GR-SL, GR- COSL, GRX-S, GRV-S, GR-S, GRX-COSL	GP, GW-GM, SC-SM	A-1-a, A-1-b	0	0	17-72	13-71	7-42	3-18	15-22	1-6
Pleitito-----	0-3	SL	SC-SM, SM	A-2-4, A-4	0	0	88-100	88-100	66-83	34-46	0-25	NP-6
	3-8	SL	SM, SC-SM	A-4, A-2-4	0	0	85-100	84-100	63-83	33-46	0-23	NP-6
	8-11	SR: S to FSL	SM, SC-SM	A-4	0	0	92-100	91-100	69-83	36-46	0-23	NP-6
	11-18	GR-S, GRV-S, S	SP-SM, GP	A-2-4, A-1-b, A-1-a	0	0	40-85	38-84	29-67	3-9	0-19	NP-2
	18-21	SR: S to GRV-FSL	SM, GM	A-1-a, A-4	0	0	40-92	38-92	28-72	15-38	0-19	NP-2
	21-29	COSL, GRV-COSL, GR-COSL	GP-GM, GC-GM, SC-SM	A-1-a, A-2-4	0	0	39-85	37-84	22-53	12-31	16-25	2-6
	29-48	GR-SL, SL	SC-SM, SM	A-2-4, A-4	0	0	71-92	70-92	51-72	25-37	16-22	2-6
	48-65	GR-SL, SL	SM, SC-SM	A-4, A-2-4	0	0	71-92	70-92	51-72	25-37	16-22	2-6
570: Hillbrick-----	0-4	GR-L, L	CL-ML, CL	A-6, A-4	0	0	100	100	84-92	58-66	20-30	6-12
	4-15	L, GR-L	CL, SC-SM	A-4, A-6	0	0	77-100	76-100	64-92	44-66	20-29	6-12
	15-25	BR	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												
571: Hillbrick-----	0-4	GR-L, L	CL-ML, CL	A-6, A-4	0	0	100	100	84-92	58-66	20-30	6-12
	4-15	L, GR-L	CL, SC-SM	A-4, A-6	0	0	77-100	76-100	64-92	44-66	20-29	6-12
	15-25	BR	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
580: Reward-----	0-24	CN-L	SC, CL	A-2-6, A-7-6, A-6	0	0-5	75-92	50-92	43-85	31-63	29-41	12-17
	24-39	CNV-CL, CNV-L, CN-CL, CN-L	SC, CL	A-2-6, A-6	0	0-5	70-82	48-82	42-77	31-58	29-37	13-19
	39-60	CNV-CL, CN-L, CNV-L, CN-CL	CL, SC	A-2-6, A-6, A-7-6	0	0-5	70-82	48-82	43-77	33-59	37-41	19-21
	60-70	BR	---	---	---	---	---	---	---	---	---	---
Hillbrick-----	0-2	SL, FSL	SC-SM, SC	A-2-4, A-6	0	0	81-100	81-100	59-82	29-44	21-30	6-12
	2-6	SL, FSL	SC, SC-SM	A-2-4, A-6	0	0	81-100	81-100	59-82	29-44	21-30	6-12
	6-15	SL, FSL	SC, SC-SM	A-2-4, A-6	0	0	81-100	81-100	58-80	28-43	21-30	6-12
	15-25	UWB	---	---	---	---	---	---	---	---	---	---
581: Reward-----	0-24	CN-L	SC, CL	A-2-6, A-7-6, A-6	0	0-5	75-92	50-92	43-85	31-63	29-41	12-17
	24-39	CN-L, CNV-CL, CNV-L, CN-CL	SC, CL	A-2-6, A-6	0	0-5	70-82	48-82	42-77	31-58	29-37	13-19
	39-60	CN-L, CNV-L, CN-CL, CNV-CL	CL, SC	A-2-6, A-6, A-7-6	0	0-5	70-82	48-82	43-77	33-59	37-41	19-21
	60-70	BR	---	---	---	---	---	---	---	---	---	---
583: Bellyspring-----	0-3	SL, L	SC-SM, SC	A-2-4, A-6, A-4	0	0	86-96	86-96	62-77	30-41	22-31	6-12
	3-13	L, SL	CL, SC-SM	A-4, A-6	0	0	86-96	85-95	67-89	47-66	21-36	6-17
	13-23	CL, SCL, CB- SCL, CB-CL	SC, CL	A-6, A-7-6	0	0-29	75-92	74-92	62-88	36-55	38-50	19-29
	23-38	GR-LCOS, GR- COSL, SL, GR- SL, COSL, LCOS	SC, SC-SM	A-6, A-2-4, A-1-b	0	0-13	68-93	66-93	48-77	22-41	19-29	4-12
	38-40	WB	---	---	---	---	---	---	---	---	---	---
Panoza-----	0-6	L, ST-L	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-38	12-17
	6-18	SL, ST-SL, ST- L, L	CL, SC	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-36	12-17
	18-24	L, ST-L, ST-SL, SL	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	28-36	12-17
	24-34	WB	---	---	---	---	---	---	---	---	---	---

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Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
584: Bellyspring-----	0-3	SL, L	SC, SC-SM	A-2-4, A-6, A-4	0	0	86-96	86-96	62-77	30-41	22-31	6-12
	3-13	SL, L	CL, SC-SM	A-4, A-6	0	0	86-96	85-95	67-89	47-66	21-36	6-17
	13-23	CL, SCL, CB- SCL, CB-CL	SC, CL	A-6, A-7-6	0	0-29	75-92	74-92	62-88	36-55	38-50	19-29
	23-38	GR-LCOS, GR- COSL, SL, GR- SL, COSL, LCOS	SC-SM, SC	A-6, A-2-4, A-1-b	0	0-13	68-93	66-93	48-77	22-41	19-29	4-12
	38-40	WB	---	---	---	---	---	---	---	---	---	---
Panoza-----	0-6	L, ST-L	CL, SC		0-23	0-29	81-100	80-100	68-92	49-69	29-38	12-17
	6-18	L, SL, ST-L, ST-SL	CL, SC		0-23	0-29	81-100	80-100	68-92	49-69	29-36	12-17
	18-24	L, ST-L, SL, ST-SL	SC, CL		0-23	0-29	81-100	80-100	68-92	49-69	28-36	12-17
	24-34	WB	---	---	---	---	---	---	---	---	---	---
585: Bellyspring-----	0-3	L, SL	SC-SM, SC	A-2-4, A-6, A-4	0	0	86-96	86-96	62-77	30-41	22-31	6-12
	3-13	SL, L	SC-SM, CL	A-4, A-6	0	0	86-96	85-95	67-89	47-66	21-36	6-17
	13-23	CL, SCL, CB- SCL, CB-CL	CL, SC	A-6, A-7-6	0	0-29	75-92	74-92	62-88	36-55	38-50	19-29
	23-38	GR-LCOS, GR- COSL, SL, GR- SL, COSL, LCOS	SC-SM, SC	A-6, A-2-4, A-1-b	0	0-13	68-93	66-93	48-77	22-41	19-29	4-12
	38-40	WB	---	---	---	---	---	---	---	---	---	---
Panoza-----	0-6	L, ST-L	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-38	12-17
	6-18	ST-L, L, ST-SL, SL	CL, SC	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-36	12-17
	18-24	SL, ST-SL, ST- L, L	CL, SC	A-6	0-23	0-29	81-100	80-100	68-92	49-69	28-36	12-17
	24-34	WB	---	---	---	---	---	---	---	---	---	---
586: Panoza-----	0-6	L, ST-L	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-38	12-17
	6-18	ST-SL, ST-L, L, SL	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-36	12-17
	18-24	SL, ST-SL, ST- L, L	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	28-36	12-17
	24-34	WB	---	---	---	---	---	---	---	---	---	---

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Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
586: Beam-----	0-4	ST-L, L, ST- FSL, FSL, ST- SL, SL	CL, SC-SM, SC	A-6, A-2-4, A-4	0-15	0-15	81-100	80-100	72-100	30-51	24-37	7-17
	4-15	ST-L, L, ST- FSL, FSL	SC-SM, SC	A-6, A-2-4	0-15	0-15	81-100	80-100	71-100	29-49	23-36	7-17
	15-25	WB	---	---	---	---	---	---	---	---	---	---
587: Panoza-----	0-6	ST-L, L	CL, SC	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-38	12-17
	6-18	SL, ST-SL, L, ST-L	CL, SC	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-36	12-17
	18-24	SL, ST-SL, ST- L, L	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	28-36	12-17
	24-34	WB	---	---	---	---	---	---	---	---	---	---
Beam-----	0-4	ST-L, SL, FSL, ST-SL, L, ST- FSL	CL, SC-SM, SC	A-6, A-2-4, A-4	0-15	0-15	81-100	80-100	72-100	30-51	24-37	7-17
	4-15	ST-L, L, FSL, ST-FSL	SC-SM, SC	A-6, A-2-4	0-15	0-15	81-100	80-100	71-100	29-49	23-36	7-17
	15-25	WB	---	---	---	---	---	---	---	---	---	---
588: Panoza-----	0-6	ST-L, L	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-38	12-17
	6-18	ST-SL, SL, ST- L, L	SC, CL	A-6	0-23	0-29	81-100	80-100	68-92	49-69	29-36	12-17
	18-24	ST-L, ST-SL, SL, L	CL, SC	A-6	0-23	0-29	81-100	80-100	68-92	49-69	28-36	12-17
	24-34	WB	---	---	---	---	---	---	---	---	---	---
Beam-----	0-4	SL, ST-SL, FSL, L, ST-FSL, ST- L	CL, SC-SM, SC	A-2-4, A-6	0-15	0-15	81-100	80-100	72-100	30-51	24-37	7-17
	4-15	FSL, ST-FSL, L, ST-L	SC, SC-SM	A-6, A-2-4	0-15	0-15	81-100	80-100	71-100	29-49	23-36	7-17
	15-25	WB	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
590: Gorman-----	0-7	GR-SL, SL	SM, SC-SM, SC	A-6, A-2-4	0	0	78-100	77-100	55-82	27-45	25-39	6-13
	7-15	GR-SL, SL	SC, SC-SM	A-2-6, A-2-4, A-6	0	0	78-100	77-100	52-78	23-40	23-37	6-13
	15-23	SCL, GR-SCL, GR-L, L	SC-SM, CL	A-6, A-7-6, A-4	0	0	77-100	76-100	57-92	40-70	24-41	6-19
	23-37	GR-SCL, SCL	CL, SC	A-2-6, A-6, A-7-6	0	0	77-100	76-100	64-99	35-61	32-47	13-25
	37-48	SCL, GR-SCL	SC, CL	A-2-6, A-6, A-7-6	0	0	77-100	76-100	61-95	33-59	31-47	13-25
	48-61	CL, GR-CL	SC, CL	A-6, A-7-6	0	0	77-100	76-100	62-96	47-77	31-46	13-25
Typic Xerorthents, mesic-	0-4	GR-SL, GR-L, SL, L	SC-SM, CL	A-4, A-6	0	0	71-92	69-91	54-81	37-58	20-31	4-12
	4-9	GR-SL, GR-L, L, SL	CL, SC-SM	A-6, A-4	0	0	71-92	69-91	55-82	38-60	20-30	4-12
	9-18	SL, GR-SL, GR- L, L, GRV-SL, GRV-L	CL, GC, GC-GM	A-6, A-4, A- 2-4	0	0	54-85	51-84	41-75	28-54	20-30	4-12
	18-24	GRX-L, GRX-SL, GRV-L, GRV-SL, GR-L, GR-SL	GC, GC-GM	A-4, A-1-a, A-6	0	0	32-71	27-69	22-62	15-45	19-29	4-12
	24-34	GRV-SL, GRV-L, GR-L, GR-SL, GRX-SL, GRX-L	GC-GM, GC	A-1-a, A-1-b, A-6	0	0	28-60	23-57	20-54	14-39	19-29	4-12
	34-44	WB	---	---	---	---	---	---	---	---	---	---
Xerorthents, shallow-----	0-8	SCL, GR-SCL	SC, CL	A-7-6, A-6	0	0	100	100	82-96	45-59	30-43	13-24
	8-13	GR-SL, GR-LS, SL, LS	SM, SC	A-4, A-6, A- 2-4	0	0	100	100	68-82	30-44	16-29	2-13
	13-23	WB	---	---	---	---	---	---	---	---	---	---
591: Geghus-----	0-2	L, SL, SIL	CL-ML, CL	A-7-6, A-6, A-4	0	0-10	93-100	93-100	76-95	54-71	27-43	7-17
	2-6	L, SIL, SL	CL-ML, CL	A-6, A-4, A- 7-6	0	0-10	93-100	93-100	76-95	54-71	26-41	7-17
	6-15	SIL, CL, L	CL-ML, CL	A-6, A-4, A- 7-6	0	0-10	94-100	93-100	74-100	52-84	24-50	7-28
	15-29	SIL, CL, L	CL, CH	A-6, A-7-6	0	0-10	94-100	93-100	78-100	60-84	32-51	13-29
	29-44	L, CL, SIL	CL, CH	A-6, A-7-6	0	0-10	94-100	93-100	78-100	60-84	31-51	13-29
	44-54	SIL, CL, L	CL	A-6, A-7-6	0	0-10	94-100	93-100	78-100	60-84	31-50	13-29
	54-62	SIL, CL, L	CL	A-6, A-7-6	0	0-10	94-100	93-100	81-100	60-84	31-50	13-29

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
591: Selby-----	0-3	CBV-L, CB-L, CBX-L	CL, GC-GM, GC	A-1-b, A-7-6, A-6	0	30-54	39-81	36-80	29-77	20-57	23-41	6-17
	3-8	CBV-L, CBX-L, CB-L, CB-CL, CBX-CL, CBV-CL	GC, GC-GM	A-2-4, A-6, A-1-b	0	16-43	33-68	30-66	25-65	17-48	22-38	6-17
	8-16	CBV-CL, CBX-CL, CB-CL, CB-SCL, CBV-SCL, CBX- SCL	GC	A-2-6, A-7-6	0	30-54	39-81	36-80	30-77	17-48	32-46	15-25
	16-25	CBX-SL, CBV-SL	GC, GW-GC, GP	A-2-4, A-2-6, A-1-a	0	29-53	14-51	10-49	8-42	4-24	19-30	4-12
	25-35	BR	---	---	---	---	---	---	---	---	---	---
600: Positas-----	0-2	SL, L	SC-SM, ML, CL	A-7-6, A-4	0	0	85-100	84-100	71-100	49-75	23-46	6-18
	2-10	SL, L	ML, CL, SC-SM	A-6, A-7-6, A-4	0	0	85-100	84-100	68-97	47-73	22-41	6-18
	10-15	SL, L	SC-SM, CL	A-6, A-4	0	0	85-100	84-100	66-96	46-71	22-39	6-18
	15-19	C, CL	CH, CL	A-7-6	0	0	92-100	84-100	74-99	59-80	44-56	25-32
	19-32	CL, C	CL, CH	A-7-6	0	0	92-100	84-100	72-96	58-79	46-57	25-33
	32-37	CL, C	CH, CL	A-7-6	0	0	92-100	84-100	74-99	59-80	44-55	25-32
	37-44	C, CL	CL, CH	A-6, A-7-6	0	0	92-100	84-100	75-100	58-85	39-55	21-32
	44-55	GRX-SCL, GRX- CL, GRV-CL, GRV-SCL	GP-GC, GC	A-2-7, A-2-6	0	0-16	20-54	14-51	12-48	6-28	30-42	13-21
	55-67	GRV-SL, GRX-SL	GC, GP-GC	A-2-4, A-1-a, A-2-6	0	0-15	20-55	14-52	11-44	5-25	19-30	4-12
Bitcreek-----	0-3	GR-L, GR-SL, SL, GR-CL, L, GR-SCL, SCL	CH, SC	A-2-6, A-7-6	0	0	78-100	77-100	60-95	33-59	34-53	13-25
	3-8	L, GR-L, GR-CL, GR-SCL, SCL	SC, CL	A-7-6, A-2-6, A-6	0	0	78-100	77-100	60-95	33-59	31-49	13-25
	8-19	SCL, GR-CL, L, GR-SCL, GR-L	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	59-93	32-58	31-48	13-25
	19-31	SCL, L, GR-SCL, GR-CL, GR-L	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	55-88	29-54	30-47	13-25
	31-38	L, GR-L, SCL, GR-SCL, GR-CL	CL, SC	A-6, A-7-6, A-2-6	0	0	78-100	77-100	59-93	32-58	30-46	13-25
	38-60	GR-CL, L, GR-L, SCL, GR-SCL, GR-C, C	SC, CH	A-6, A-7-6	0	0	76-100	75-100	47-98	38-86	32-65	13-40

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
610:												
Balcom-----	0-2	L	CL	A-4, A-6	0	0	100	100	86-96	62-72	27-39	9-17
	2-10	L	CL	A-4, A-6	0	0	100	100	85-95	60-70	27-37	9-17
	10-20	L	CL	A-4, A-6	0	0-1	88-100	87-100	74-95	52-70	26-36	9-17
	20-33	PGRX-L	CL	A-4, A-6	0	0	100	100	84-94	60-70	25-36	9-17
	33-43	WB	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												
620:												
Typic Xerorthents, mesic-	0-4	SL, GR-SL, L, GR-L	SC-SM, CL	A-4, A-6	0	0	71-92	69-91	54-81	37-58	20-31	4-12
	4-9	GR-L, GR-SL, SL, L	CL, SC-SM	A-6, A-4	0	0	71-92	69-91	55-82	38-60	20-30	4-12
	9-18	GR-SL, GR-L, SL, L, GRV-SL, GRV-L	CL, GC-GM, GC	A-6, A-4, A- 2-4	0	0	54-85	51-84	41-75	28-54	20-30	4-12
	18-24	GRX-L, GRX-SL, GR-SL, GR-L, GRV-L, GRV-SL	GC-GM, GC	A-4, A-1-a, A-6	0	0	32-71	27-69	22-62	15-45	19-29	4-12
	24-34	GRV-L, GRV-SL, GR-L, GRX-SL, GRX-L, GR-SL	GC, GC-GM	A-1-a, A-1-b, A-6	0	0	28-60	23-57	20-54	14-39	19-29	4-12
	34-44	WB	---	---	---	---	---	---	---	---	---	---
Haploxerepts-----	0-7	GRV-CL, GR-SL, GRV-SL, GR-CL	GC-GM, GC	A-2-4, A-7-6, A-1-b	0	0	50-78	48-77	36-77	18-49	21-45	4-24
	7-20	GRV-SL, GR-SL, GR-CL, GRV-CL	GC-GM, SC, GC	A-1-b, A-7-6, A-2-4	0	0	50-78	48-77	33-74	16-46	20-44	4-24
	20-41	GRV-CL, GR-CL, GRV-SL, GR-SL	GC, SC, GC-GM	A-1-b, A-7-6, A-2-4	0	0	50-78	48-77	34-76	16-46	19-43	4-24
	41-60	GR-CL, GRV-SL, GR-SL, GRV-CL	GC-GM, GC	A-1-b, A-7-6, A-2-4	0	0	50-78	48-77	33-74	16-46	19-43	4-24
Xerorthents, sandy-----	0-11	GR-LS	SP-SM, SC-SM	A-1-b, A-2-4	0	0	59-85	58-84	44-72	11-24	0-26	NP-7
	11-22	GRV-LS, GR-LS	GM, SM, SC-SM	A-2-4, A-1-b	0	0-15	56-85	54-84	42-72	15-31	0-26	NP-7
	22-33	CBX-LS, CB-LS, CBV-LS	SM, SC-SM, GP-GM	A-2-4, A-1-b	0	15-42	46-83	44-82	34-72	12-31	0-25	NP-7
	33-41	GR-LS	SC-SM, SM	A-2-4, A-1-b	0	0	59-85	58-84	45-72	16-31	0-24	NP-7
	41-51	WB	---	---	---	---	---	---	---	---	---	---

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Soil Survey of Kern County, California, Southwest Part

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
640: Bitcreek-----	0-3	SL, GR-L, GR- CL, L, SCL, GR-SCL, GR-SL	CH, SC	A-2-6, A-7-6	0	0	78-100	77-100	60-95	33-59	34-53	13-25
	3-8	GR-L, L, GR- SCL, GR-CL, SCL	SC, CL	A-7-6, A-2-6, A-6	0	0	78-100	77-100	60-95	33-59	31-49	13-25
	8-19	GR-CL, L, GR-L, SCL, GR-SCL	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	59-93	32-58	31-48	13-25
	19-31	SCL, L, GR-L, GR-SCL, GR-CL	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	55-88	29-54	30-47	13-25
	31-38	GR-CL, L, GR-L, SCL, GR-SCL	CL, SC	A-6, A-7-6, A-2-6	0	0	78-100	77-100	59-93	32-58	30-46	13-25
	38-60	GR-C, GR-CL, C, L, GR-SCL, SCL, GR-L	SC, CH	A-6, A-7-6	0	0	76-100	75-100	47-98	38-86	32-65	13-40
Dibble-----	0-3	GR-L, L	CL, GC	A-7-6, A-6	0	0	64-84	63-84	55-84	40-66	31-46	13-24
	3-12	CL, GR-CL, GR- C, C	GC, CL, CH	A-6, A-7-6	0	0	64-92	63-91	52-91	40-74	39-55	19-32
	12-22	C, GR-CL, GR-C, CL	CH, CL, GC	A-6, A-7-6	0	0	64-92	63-91	52-91	40-74	38-55	19-32
	22-31	CL, GR-C, C, GR-CL	GC, CH, CL	A-6, A-7-6	0	0	64-92	63-91	52-91	40-74	38-54	19-32
	31-38	GRX-CL, GRV-CL, GRX-C, GRV-C	GC	A-7-6, A-2-6	0	0	30-53	27-51	24-51	19-43	36-52	19-32
	38-48	WB	---	---	---	---	---	---	---	---	---	---
Eaglerest-----	0-2	GR-L, L	SC, CL	A-6, A-4	0	0-1	78-92	77-92	66-84	47-61	27-34	9-13
	2-6	GRV-SIL, GR- SIL, GR-CL, GRV-CL	CL, GC	A-2-6, A-6	0	8-23	42-76	39-75	36-73	31-64	30-38	13-18
	6-13	GR-CL, GR-SIL, GRV-SIL, GRV- CL	CL, GC	A-2-6, A-6	0	8-23	42-76	39-75	36-74	32-65	30-37	13-18
	13-23	WB	---	---	---	---	---	---	---	---	---	---
650: Lithic Argixerolls-----	0-2	FSL, GR-FSL, GRV-FSL	GM, SC-SM, SC	A-6, A-1-b, A-2-4	0	0	57-86	56-86	48-85	21-43	17-31	2-12
	2-7	FLV-FSL, FLX- FSL	GC-GM, GP-GM, GC	A-1-a, A-2-4, A-2-6	15-33	11-25	31-68	28-67	24-66	10-33	16-30	2-12
	7-11	FLV-FSL, FLX- FSL	GC, GP-GC, SC	A-2-4, A-1-a, A-2-6	15-38	11-29	31-76	28-75	24-71	10-33	21-29	6-12
	11-21	BR	---	---	---	---	---	---	---	---	---	---

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Soil Survey of Kern County, California, Southwest Part

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>											
650: Lithic Xerorthents, mesic	0-7	BYV-SL, BYX-SL	GP-GM, GM, SC-SM	A-2-4, A-1-a, A-1-b	16-46	16-42	36-73	33-71	25-57	12-29	17-24	2-6
	7-9	BYX-SL, BYV-SL	SC-SM, GM, GP-GM	A-1-a, A-1-b, A-2-4	16-46	16-42	36-73	33-71	25-57	12-29	16-22	2-6
	9-19	BR	---	---	---	---	---	---	---	---	---	---
Rock outcrop.												
660: Elkhills-----	0-4	FSL, LCOS, SL	SC, SC-SM, SM	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	SL, FSL, LCOS	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	SL, FSL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	SL, FSL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	FSL, COSL, GR- L, SL, GR-SL, GRV-SL, LS, L, GR-FSL, GRV- COSL, GR-COSL, GRV-LS, GR-LS, GRV-L	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	COSL, GR-SL, GRV-SL, LS, GR-LS, L, GR- L, GR-COSL, GRV-COSL, FSL, GR-FSL, SL, GRV-LS, GRV-L	SM, GM, SC-SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6
Legray-----	0-4	SL, CB-SL	SC, SC-SM	A-6, A-2-4	0	3-15	76-92	75-92	56-78	28-44	20-31	4-12
	4-13	CB-SL, SL	SC-SM, SC	A-2-4, A-6	0	8-23	74-92	73-91	53-75	25-40	20-30	4-12
	13-26	GR-LS, GRV-LS, GR-SL, GRV-SL	SC, GC-GM, SC-SM	A-2-4, A-2-6, A-1-b	0	8-23	54-70	52-69	37-57	17-30	20-30	4-12
	26-32	CBV-LS, CBX-LS, CBV-LCOS, CBX- LCOS	GM, SM, SC-SM	A-2-4, A-1-b	0	42-53	47-69	45-68	35-57	13-24	0-22	NP-6
	32-39	CBX-LS, CBV-LS, CBX-LCOS, CBV- LCOS	GP-GM, GC-GM, GM	A-1-b	0	23-36	42-60	40-58	31-49	11-20	0-22	NP-6
	39-48	GRV-LS, GR-LS	GM, SM, SC-SM	A-2-4, A-1-b	0	0	54-78	52-77	40-65	15-27	0-22	NP-6
	48-61	GRV-LS, GR-LS	SC-SM, SM, GM	A-2-4, A-1-b	0	0	54-78	52-77	40-65	15-27	0-22	NP-6
	61-65	CBV-LS, CBX-LS, CBV-LCOS, CBX- LCOS	GP-GM, SC-SM, GM	A-2-4, A-1-b	0	29-42	46-65	44-64	34-54	12-22	0-21	NP-6

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
661:												
Elkhills-----	0-4	FSL, LCOS, SL	SC, SC-SM, SM	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	FSL, LCOS, SL	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	LCOS, FSL, SL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	LCOS, FSL, SL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	GR-L, L, GRV-L, GR-FSL, SL, COSL, FSL, GR- SL, GRV-SL, LS, GRV-COSL, GR-COSL, GRV- LS, GR-LS	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	L, FSL, GRV-L, GR-L, GR-COSL, GRV-LS, GR-LS, COSL, LS, GRV- SL, GR-SL, SL, GR-FSL, GRV- COSL	SM, GM, SC-SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6
Legray-----	0-4	SL, CB-SL	SC, SC-SM	A-6, A-2-4	0	3-15	76-92	75-92	56-78	28-44	20-31	4-12
	4-13	SL, CB-SL	SC, SC-SM	A-2-4, A-6	0	8-23	74-92	73-91	53-75	25-40	20-30	4-12
	13-26	GR-LS, GRV-LS, GR-SL, GRV-SL	SC, GC-GM, SC-SM	A-2-4, A-2-6, A-1-b	0	8-23	54-70	52-69	37-57	17-30	20-30	4-12
	26-32	CBV-LS, CBX-LS, CBV-LCOS, CBX- LCOS	GM, SM, SC-SM	A-2-4, A-1-b	0	42-53	47-69	45-68	35-57	13-24	0-22	NP-6
	32-39	CBV-LS, CBX-LS, CBX-LCOS, CBV- LCOS	GC-GM, GM, GP-GM	A-1-b	0	23-36	42-60	40-58	31-49	11-20	0-22	NP-6
	39-48	GRV-LS, GR-LS	SC-SM, GM, SM	A-2-4, A-1-b	0	0	54-78	52-77	40-65	15-27	0-22	NP-6
	48-61	GR-LS, GRV-LS	SC-SM, GM, SM	A-2-4, A-1-b	0	0	54-78	52-77	40-65	15-27	0-22	NP-6
	61-65	CBX-LS, CBV-LS, CBV-LCOS, CBX- LCOS	SC-SM, GM, GP-GM	A-2-4, A-1-b	0	29-42	46-65	44-64	34-54	12-22	0-21	NP-6
670:												
Harrisranch-----	0-3	SL, L	SC-SM, SC	A-4, A-6, A- 2-4	0	0	100	100	73-81	35-43	23-35	6-13
	3-23	L, SL	SC, SC-SM	A-2-4, A-6	0	0	100	100	71-79	35-43	22-33	6-13
	23-43	SL, L	SC, SC-SM	A-2-4, A-6	0	0	100	100	71-79	35-43	22-33	6-13
	43-65	SL, L	SC, SC-SM	A-2-4, A-4, A-6	0	0	100	100	71-79	35-43	21-32	6-13
Rock outcrop.												

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Soil Survey of Kern County, California, Southwest Part

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
680: Milham-----	0-5	GR-COSL, COSL, SL, GR-SL	SC, SC-SM	A-6, A-2-4	0	0-1	72-100	70-100	53-87	27-50	20-32	4-13
	5-12	SL, COSL, GR- COSL, GR-SL	SC-SM, SC	A-2-4, A-6, A-1-b	0	0-1	72-100	70-100	50-84	24-46	19-32	4-13
	12-18	SL, COSL, GR- SL, GR-COSL	SC, SC-SM	A-1-b, A-2-4, A-6	0	0-1	72-100	70-100	49-82	23-45	19-32	4-13
	18-24	SCL, GR-SCL	SC, CL	A-2-6, A-6, A-7-6	0	0-1	70-100	69-100	58-92	33-55	33-42	16-21
	24-33	GR-SCL, SCL	SC, CL	A-2-6, A-6, A-7-6	0	0-1	70-100	69-100	58-92	33-55	33-42	16-21
	33-43	COSL, GR-COSL	SC, CL, SC-SM	A-1-b, A-2-4, A-7-6	0	0-1	70-100	69-100	40-78	22-53	22-42	6-21
	43-55	SCL, SL, GR- SCL, GR-SL	SC, CL, SC-SM	A-2-4, A-6	0	0-1	70-100	69-100	52-95	25-56	21-40	6-21
	55-60	LS, SL, GR-SL, GR-LS	SC-SM, SP-SM	A-1-b, A-2-4	0	0-1	60-100	59-100	45-82	12-26	17-22	2-6
690: Dibble-----	0-3	GR-L, L	GC, CL	A-6, A-7-6	0	0	64-84	63-84	55-84	40-66	31-46	13-24
	3-12	CL, GR-CL, GR- C, C	GC, CH, CL	A-6, A-7-6	0	0	64-92	63-91	52-91	40-74	39-55	19-32
	12-22	C, CL, GR-CL, GR-C	CH, CL, GC	A-6, A-7-6	0	0	64-92	63-91	52-91	40-74	38-55	19-32
	22-31	CL, GR-CL, GR- C, C	CH, CL, GC	A-6, A-7-6	0	0	64-92	63-91	52-91	40-74	38-54	19-32
	31-38	GRX-CL, GRV-CL, GRX-C, GRV-C	GC	A-7-6, A-2-6	0	0	30-53	27-51	24-51	19-43	36-52	19-32
	38-48	WB	---	---	---	---	---	---	---	---	---	---
Geghus-----	0-2	SIL, SL, L	CL-ML, CL	A-7-6, A-6, A-4	0	0-10	93-100	93-100	76-95	54-71	27-43	7-17
	2-6	L, SIL, SL	CL-ML, CL	A-6, A-4, A- 7-6	0	0-10	93-100	93-100	76-95	54-71	26-41	7-17
	6-15	CL, SIL, L	CL, CL-ML	A-6, A-4, A- 7-6	0	0-10	94-100	93-100	74-100	52-84	24-50	7-28
	15-29	SIL, CL, L	CL, CH	A-6, A-7-6	0	0-10	94-100	93-100	78-100	60-84	32-51	13-29
	29-44	SIL, CL, L	CH, CL	A-6, A-7-6	0	0-10	94-100	93-100	78-100	60-84	31-51	13-29
	44-54	L, SIL, CL	CL	A-6, A-7-6	0	0-10	94-100	93-100	78-100	60-84	31-50	13-29
	54-62	CL, SIL, L	CL	A-7-6, A-6	0	0-10	94-100	93-100	81-100	60-84	31-50	13-29

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Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
700: Xerolls, loamy-skeletal--	0-8	L	CL, GP-GC	A-2-6, A-7-6, A-6	0	0	18-100	14-100	12-96	9-72	31-42	12-18
	8-18	CBV-L, CBX-L	GC	A-2-6, A-6	0	21-50	28-69	25-68	21-65	15-48	29-39	12-19
	18-38	CBV-L, CBX-L	GC	A-2-6, A-6	0	21-50	28-69	25-68	21-64	15-48	28-38	12-19
	38-60	CBV-L, CBX-L	GC	A-2-6, A-6	0	21-50	28-69	25-68	21-65	15-48	28-37	12-19
Los Gatos-----	0-1	SPM, GR-SPM			0	0	---	---	---	---	---	---
	1-6	GR-L, L, GR-SL, SL	CL, SM, CL-ML	A-4	0	0	78-92	77-92	63-84	43-61	19-33	2-10
	6-10	GR-L, L, GR-SL, SL	CL-ML, SM, CL	A-4	0	0	78-92	77-92	63-84	43-61	18-29	2-10
	10-16	GR-CL, CL, GR- SCL, SCL, GR- L, L	SC, CL	A-6, A-7-6, A-4	0	0	78-92	77-92	64-92	46-73	26-45	9-25
	16-24	GRV-CL, GRV-L, GR-L, GR-SCL, GRV-SCL, GR-CL	GC, CL	A-2-4, A-7-6	0	0-16	49-77	47-76	36-73	27-59	27-46	10-25
	24-29	GRV-SCL, GRX-L, GRX-CL, GRV- CL, GRX-SCL, GRV-L	GC, GP-GC	A-2-4, A-7-6, A-2-6	0	8-30	19-51	16-49	12-46	8-36	25-44	9-25
	29-39	BR	---	---	---	---	---	---	---	---	---	---
720: Friant-----	0-1	GRV-SL, GR-SL	SP-SC, SC	A-1-a, A-2-6, A-2-4	0	0	68-78	35-56	25-45	12-24	22-35	6-12
	1-8	GR-L, GRV-L, GRV-SL, GR-SL	SC	A-6, A-2-4	0	0	67-84	35-68	29-64	21-47	25-38	9-17
	8-18	BR	---	---	---	---	---	---	---	---	---	---
Geghus-----	0-2	L, SL, SIL	CL, CL-ML	A-7-6, A-6, A-4	0	0-10	93-100	93-100	76-95	54-71	27-43	7-17
	2-6	SIL, SL, L	CL, CL-ML	A-6, A-4, A- 7-6	0	0-10	93-100	93-100	76-95	54-71	26-41	7-17
	6-15	L, CL, SIL	CL-ML, CL	A-6, A-4, A- 7-6	0	0-10	94-100	93-100	74-100	52-84	24-50	7-28
	15-29	L, CL, SIL	CH, CL	A-6, A-7-6	0	0-10	94-100	93-100	78-100	60-84	32-51	13-29
	29-44	CL, SIL, L	CL, CH	A-6, A-7-6	0	0-10	94-100	93-100	78-100	60-84	31-51	13-29
	44-54	L, CL, SIL	CL	A-6, A-7-6	0	0-10	94-100	93-100	78-100	60-84	31-50	13-29
	54-62	CL, L, SIL	CL	A-6, A-7-6	0	0-10	94-100	93-100	81-100	60-84	31-50	13-29
Lithic Xerorthents, thermic-----	0-6	GR-SL	SC, GC-GM, SC-SM	A-6, A-1-b, A-2-4	0	0	59-85	58-84	42-69	20-37	20-30	4-12
	6-12	WB	---	---	---	---	---	---	---	---	---	---

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Soil Survey of Kern County, California, Southwest Part

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
724: Elkhills-----	0-4	LCOS, FSL, SL	SC, SM, SC-SM	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	LCOS, FSL, SL	SC-SM, SM, SC	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	SL, FSL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	FSL, SL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	SL, GR-SL, GRV- SL, LS, FSL, GRV-LS, COSL, GRV-COSL, GR- FSL, L, GR-L, GRV-L, GR-LS, GR-COSL	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	GR-L, GRV-L, L, GRV-LS, GR-LS, LS, GRV-SL, GR-SL, SL, GR- FSL, FSL, GRV- COSL, GR-COSL, COSL	GM, SC-SM, SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
725: Sodic Haplocambids, thick-----	0-3	L, SL	ML, CL-ML, CL	A-6, A-4	0	0	92-100	91-100	75-93	52-68	20-33	3-12
	3-12	SL, L	CL-ML, ML, CL	A-4, A-6	0	0	92-100	91-100	75-93	52-68	19-31	3-12
	12-18	L, SL	SM, CL-ML, CL	A-4, A-6	0	0	71-100	69-100	57-93	40-68	19-30	3-12
	18-24	L, SCL, GR-SIL, SIL, CL, GR- SCL, GR-CL, GR-L, GR-SL, SL	GM, CL-ML, CH	A-4, A-7-6	0	0	71-100	69-100	60-100	48-100	19-57	3-36
	24-27	GR-L, FSL, L, GR-SIL, GR- FSL, SIL, SCL, GR-CL, CL, GR- SCL	SC-SM, CH	A-4, A-2-4, A-7-6	0	0	71-100	70-100	62-100	28-82	19-57	4-36
	27-42	SL, SCL, CL, GR-SCL, GR-CL, GR-SL, GR-SIC, GR-L, SIC, L	CH, GC	A-7-6	0	0	70-100	69-100	46-100	43-100	50-60	29-37
	42-54	SL, L, SIL, GR- SIL, CL, GR- SL, GR-CL, GR- SCL, GR-L, SCL	CH, SC	A-7-6, A-2-6, A-6	0	0	71-100	69-100	56-100	31-70	35-58	17-36
	54-61	GR-SIL, SL, GR- SL, SCL, L, SIL, GR-L, GR- SCL, GR-CL, CL	CH, SC	A-6, A-2-6, A-7-6	0	0	71-100	69-100	58-100	33-70	37-58	19-36

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
726: Sodic Haplocambids, thick	0-3	SL, L	ML, CL-ML, CL	A-6, A-4	0	0	92-100	91-100	75-93	52-68	20-33	3-12
	3-12	SL, L	CL, CL-ML, ML	A-4, A-6	0	0	92-100	91-100	75-93	52-68	19-31	3-12
	12-18	SL, L	CL-ML, CL, SM	A-4, A-6	0	0	71-100	69-100	57-93	40-68	19-30	3-12
	18-24	GR-L, SIL, GR- SCL, GR-CL, GR-SL, SL, GR- SIL, L, SCL, CL	CL-ML, CH, GM	A-4, A-7-6	0	0	71-100	69-100	60-100	48-100	19-57	3-36
	24-27	GR-SCL, GR-CL, GR-L, CL, SIL, L, SCL, GR- FSL, FSL, GR- SIL	CH, SC-SM	A-4, A-2-4, A-7-6	0	0	71-100	70-100	62-100	28-82	19-57	4-36
	27-42	SL, L, GR-SIC, GR-SL, SCL, SIC, GR-L, GR- CL, GR-SCL, CL	CH	A-7-6	0	0	70-100	69-100	67-100	63-100	50-60	29-37
	42-54	GR-SCL, CL, GR- L, GR-CL, SIL, L, SCL, GR-SL, SL, GR-SIL	SC, CH	A-7-6, A-2-6, A-6	0	0	71-100	69-100	56-100	31-70	35-58	17-36
	54-61	GR-SCL, GR-CL, GR-L, SIL, L, SCL, GR-SL, SL, GR-SIL, CL	SC, CH	A-6, A-2-6, A-7-6	0	0	71-100	69-100	58-100	33-70	37-58	19-36

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
727: Sodic Haplocambids, thick	0-3	L, SL	ML, CL-ML, CL	A-6, A-4	0	0	92-100	91-100	75-93	52-68	20-33	3-12
	3-12	L, SL	CL, CL-ML, ML	A-4, A-6	0	0	92-100	91-100	75-93	52-68	19-31	3-12
	12-18	SL, L	CL, CL-ML, SM	A-4, A-6	0	0	71-100	69-100	57-93	40-68	19-30	3-12
	18-24	SIL, L, GR-SCL, GR-CL, GR-L, GR-SL, SL, GR- SIL, SCL, CL	CL-ML, GM, CH	A-4, A-7-6	0	0	71-100	69-100	60-100	48-100	19-57	3-36
	24-27	GR-L, GR-CL, L, SCL, GR-FSL, FSL, GR-SIL, SIL, CL, GR- SCL	SC-SM, CH	A-4, A-2-4, A-7-6	0	0	71-100	70-100	62-100	28-82	19-57	4-36
	27-42	GR-SCL, GR-CL, GR-L, SIC, L, SCL, GR-SL, SL, GR-SIC, CL	GC, CH	A-7-6	0	0	70-100	69-100	46-100	43-100	50-60	29-37
	42-54	GR-L, SIL, GR- CL, SCL, GR- SL, SL, GR- SIL, CL, GR- SCL, L	CH, SC	A-7-6, A-2-6, A-6	0	0	71-100	69-100	56-100	31-70	35-58	17-36
	54-61	GR-L, SIL, L, SCL, GR-SL, SL, GR-SIL, GR-CL, GR-SCL, CL	SC, CH	A-6, A-2-6, A-7-6	0	0	71-100	69-100	58-100	33-70	37-58	19-36
728: Torriorthents, very thin	0-7	GR-SL, CL, L, SL, GR-CL, GR- L	GC-GM, CL	A-2-4, A-7-6	0	0	59-100	57-100	41-96	30-77	23-47	6-25
	7-16	GR-C, GR-CL, SICL, CL, GR- SICL, C	CL, GC, CH	A-6, A-7-6	0	0	58-100	56-100	50-100	39-87	38-55	19-32
	16-23	GR-C, GR-SICL, GR-CL, C, SICL, CL	CL, CH, GC	A-6, A-7-6	0	0	58-100	56-100	48-100	37-83	38-54	19-32
	23-33	CL, SICL, C, GR-CL, GR-C, GR-SICL	CL, CH, GC	A-6, A-7-6	0	0	58-100	56-100	48-100	37-83	37-54	19-32
	33-60	WB	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
729:												
Sodic Haplocambids, thick	0-3	L, SL	CL-ML, CL, ML	A-6, A-4	0	0	92-100	91-100	75-93	52-68	20-33	3-12
	3-12	L, SL	ML, CL, CL-ML	A-4, A-6	0	0	92-100	91-100	75-93	52-68	19-31	3-12
	12-18	L, SL	CL, CL-ML, SM	A-4, A-6	0	0	71-100	69-100	57-93	40-68	19-30	3-12
	18-24	SCL, CL, GR- SCL, GR-CL, GR-L, GR-SL, SL, GR-SIL, L, SIL	GM, CL-ML, CH	A-4, A-7-6	0	0	71-100	69-100	60-100	48-100	19-57	3-36
	24-27	GR-L, SIL, L, SCL, GR-FSL, GR-SCL, GR- SIL, GR-CL, CL, FSL	SC-SM, CH	A-4, A-2-4, A-7-6	0	0	71-100	70-100	62-100	28-82	19-57	4-36
	27-42	GR-L, SIC, L, SCL, GR-SL, SL, GR-SIC, CL, GR-CL, GR- SCL	CH, GC	A-7-6	0	0	70-100	69-100	46-100	43-100	50-60	29-37
	42-54	GR-SCL, CL, SIL, L, SCL, GR-SL, SL, GR- SIL, GR-CL, GR-L	SC, CH	A-7-6, A-2-6, A-6	0	0	71-100	69-100	56-100	31-70	35-58	17-36
	54-61	GR-L, SIL, L, SCL, GR-SL, SL, GR-SIL, GR-CL, GR-SCL, CL	SC, CH	A-6, A-2-6, A-7-6	0	0	71-100	69-100	58-100	33-70	37-58	19-36
Torriorthents, thin-----	0-2	SL, L	CL	A-4, A-6	0	0	100	100	88-100	63-75	26-39	9-19
	2-9	SL, L	CL	A-6, A-4	0	0	100	100	88-100	63-75	26-39	9-19
	9-17	SL, LCOS, FSL, CL, C, SIC	CL, CH, SM	A-4, A-7-6	0	0	100	100	62-100	42-86	19-59	3-36
	17-28	FSL, CL, C, SIC, LCOS, SL	CH, SM, CL	A-7-6, A-4	0	0	100	100	62-100	42-86	19-59	3-36
	28-38	LCOS, FSL, CL, C, SIC, SL	SC, CH, SM	A-7-6, A-2-4, A-4	0	0	100	100	68-100	31-75	18-57	3-36
	38-41	FSL, CL, C, SIC, SL, LCOS	CH, ML	A-7-6, A-4	0	0	100	100	65-100	60-100	21-60	3-37
	41-60	SL, LCOS, FSL, CL, SIC, C	CH, SM	A-4, A-7-6	0	0	100	100	56-100	39-83	20-60	3-37

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
729: Torriorthents, very thin eroded-----	0-7	GR-SL, GR-L, GR-CL, SL, L, CL	CL, GC-GM	A-2-4, A-7-6	0	0	59-100	57-100	41-96	30-77	23-47	6-25
	7-16	GR-C, GR-SICL, GR-CL, C, SICL, CL	CL, GC, CH	A-6, A-7-6	0	0	58-100	56-100	50-100	39-87	38-55	19-32
	16-23	GR-C, GR-SICL, GR-CL, C, SICL, CL	CL, CH, GC	A-6, A-7-6	0	0	58-100	56-100	48-100	37-83	38-54	19-32
	23-33	C, GR-SICL, GR- CL, GR-C, SICL, CL	CH, GC, CL	A-6, A-7-6	0	0	58-100	56-100	48-100	37-83	37-54	19-32
	33-60	WB	---	---	---	---	---	---	---	---	---	---
730: Haplocambids, thick-----	0-1	L, SL	CL	A-4, A-6	0	0	87-100	84-100	72-98	51-74	26-39	9-19
	1-5	L, SL	CL	A-6, A-4	0	0	87-100	84-100	70-96	50-72	26-39	9-19
	5-16	GR-L, GR-SCL, SL, GR-CL, GR- SL, SCL, CL, L	CL, SC	A-6, A-4, A- 7-6	0	0	87-100	84-100	67-95	48-73	27-42	10-21
	16-20	GR-SL, CL, L, SL, GR-SCL, GR-CL, GR-L, SCL	SC, CL	A-7-6, A-4, A-6	0	0	87-100	84-100	68-97	49-74	27-42	10-21
	20-26	GR-SL, GR-L, GR-SCL, GR-CL, SCL, SL, L, CL	SC, GC	A-6, A-2-4, A-2-6	0	0	56-81	46-76	37-72	19-43	25-40	9-21
	26-33	GR-SCL, GR-CL, GR-SL, GR-L, GRV-SCL, GRV- L, GRV-CL, GRV-SL	SC, GC	A-2-4, A-2-6, A-6	0	0	56-81	46-76	32-64	16-37	25-40	9-21
	33-54	GRV-SCL, GRV- SL, GRV-L, GRV-CL, GR-SL, GR-L, GR-SCL, GR-CL	GC, CL	A-2-4, A-6	0	0	56-81	46-76	37-72	27-56	25-39	9-21
	54-60	GRV-SL, GRV-L, GRV-CL, GRX- SL, GRX-CL, GRX-SCL, GRX- L, GRV-SCL	GC, CL	A-2-4, A-2-6, A-6	0	0	38-81	23-76	19-72	14-56	25-39	9-21

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Soil Survey of Kern County, California, Southwest Part

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
730: Elkhills-----	0-4	SL, FSL, LCOS	SM, SC-SM, SC	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	LCOS, FSL, SL	SM, SC-SM, SC	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	LCOS, FSL, SL	SM, SC, SC-SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	LCOS, FSL, SL	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	COSL, FSL, SL, GR-SL, GRV-SL, LS, GR-LS, GRV-LS, GR- COSL, GRV- COSL, GR-FSL, L, GR-L, GRV-L	SC, GM, SC-SM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	FSL, GR-FSL, SL, GR-SL, COSL, GRV- COSL, GR-LS, GRV-LS, L, GR- L, GRV-L, GR- COSL, LS, GRV- SL	SM, GM, SC-SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
731: Haplocambids, thick-----	0-1	L, SL	CL	A-4, A-6	0	0	87-100	84-100	72-98	51-74	26-39	9-19
	1-5	SL, L	CL	A-6, A-4	0	0	87-100	84-100	70-96	50-72	26-39	9-19
	5-16	GR-SCL, GR-L, GR-CL, GR-SL, SCL, SL, CL, L	CL, SC	A-6, A-4, A- 7-6	0	0	87-100	84-100	67-95	48-73	27-42	10-21
	16-20	L, CL, GR-SCL, GR-CL, GR-SL, SL, GR-L, SCL	SC, CL	A-7-6, A-4, A-6	0	0	87-100	84-100	68-97	49-74	27-42	10-21
	20-26	GR-SCL, GR-SL, SCL, CL, L, SL, GR-L, GR- CL	SC, GC	A-6, A-2-4, A-2-6	0	0	56-81	46-76	37-72	19-43	25-40	9-21
	26-33	GRV-SL, GRV-L, GRV-SCL, GR- SL, GR-CL, GR- SCL, GR-L, GRV-CL	SC, GC	A-2-4, A-2-6, A-6	0	0	56-81	46-76	32-64	16-37	25-40	9-21
	33-54	GR-CL, GR-SL, GR-SCL, GRV-L, GRV-SL, GRV- CL, GR-L, GRV- SCL	CL, GC	A-2-4, A-6	0	0	56-81	46-76	37-72	27-56	25-39	9-21
	54-60	GRX-SCL, GRX-L, GRX-CL, GRV- SCL, GRV-CL, GRV-L, GRV-SL, GRX-SL	GC, CL	A-2-4, A-2-6, A-6	0	0	38-81	23-76	19-72	14-56	25-39	9-21

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
731: Elkhills-----	0-4	SL, FSL, LCOS	SC, SC-SM, SM	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	LCOS, FSL, SL	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	SL, LCOS, FSL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	SL, LCOS, FSL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	GR-L, L, GR- FSL, GRV-COSL, GRV-LS, GRV-L, GRV-SL, GR-SL, SL, FSL, COSL, GR-LS, LS, GR- COSL	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	GR-FSL, LS, GRV-SL, GRV-L, GR-L, L, GRV- LS, GR-LS, GR- SL, SL, COSL, FSL, GRV-COSL, GR-COSL	SM, GM, SC-SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6
732: Elkhills-----	0-4	LCOS, FSL, SL	SC, SC-SM, SM	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	LCOS, FSL, SL	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	SL, FSL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	SL, FSL, LCOS	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	FSL, GR-FSL, LS, GR-LS, GR- L, COSL, SL, GR-SL, GRV-SL, GRV-LS, GR- COSL, GRV- COSL, GRV-L, L	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	FSL, COSL, GRV- COSL, GR-COSL, L, GRV-L, GR- L, GR-FSL, GRV-LS, GR-LS, LS, GRV-SL, GR-SL, SL	SM, GM, SC-SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
732: Haplocambids, thick-----	0-1	SL, L	CL	A-4, A-6	0	0	87-100	84-100	72-98	51-74	26-39	9-19
	1-5	SL, L	CL	A-6, A-4	0	0	87-100	84-100	70-96	50-72	26-39	9-19
	5-16	SL, L, CL, SCL, GR-SL, GR-CL, GR-SCL, GR-L	CL, SC	A-6, A-4, A- 7-6	0	0	87-100	84-100	67-95	48-73	27-42	10-21
	16-20	SL, L, CL, SCL, GR-SL, GR-CL, GR-SCL, GR-L	CL, SC	A-7-6, A-4, A-6	0	0	87-100	84-100	68-97	49-74	27-42	10-21
	20-26	SCL, L, SL, CL, GR-SL, GR-CL, GR-L, GR-SCL	GC, SC	A-6, A-2-4, A-2-6	0	0	56-81	46-76	37-72	19-43	25-40	9-21
	26-33	GR-L, GR-SCL, GR-SL, GRV-CL, GRV-L, GRV-SL, GR-CL, GRV-SCL	GC, SC	A-2-4, A-2-6, A-6	0	0	56-81	46-76	32-64	16-37	25-40	9-21
	33-54	GRV-CL, GR-L, GR-SCL, GR-CL, GR-SL, GRV-L, GRV-SL, GRV- SCL	CL, GC	A-2-4, A-6	0	0	56-81	46-76	37-72	27-56	25-39	9-21
	54-60	GRX-L, GRX-SCL, GRX-CL, GRX- SL, GRV-CL, GRV-L, GRV-SL, GRV-SCL	GC, CL	A-2-4, A-2-6, A-6	0	0	38-81	23-76	19-72	14-56	25-39	9-21

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
733:												
Sodic Haplocambids, thick	0-3	SL, L	CL, CL-ML, ML	A-6, A-4	0	0	92-100	91-100	75-93	52-68	20-33	3-12
	3-12	SL, L	CL, CL-ML, ML	A-4, A-6	0	0	92-100	91-100	75-93	52-68	19-31	3-12
	12-18	SL, L	SM, CL, CL-ML	A-4, A-6	0	0	71-100	69-100	57-93	40-68	19-30	3-12
	18-24	GR-L, GR-SL, SL, GR-SIL, GR-SCL, CL, SCL, GR-CL, L, SIL	CH, CL-ML, GM	A-4, A-7-6	0	0	71-100	69-100	60-100	48-100	19-57	3-36
	24-27	SCL, GR-FSL, FSL, GR-SIL, GR-L, GR-SCL, CL, SIL, L, GR-CL	SC-SM, CH	A-4, A-2-4, A-7-6	0	0	71-100	70-100	62-100	28-82	19-57	4-36
	27-42	GR-SCL, CL, GR- CL, GR-L, SIC, L, SCL, GR-SL, SL, GR-SIC	GC, CH	A-7-6	0	0	70-100	69-100	46-100	43-100	50-60	29-37
	42-54	SCL, GR-L, GR- SIL, SL, GR- SL, L, SIL, GR-CL, GR-SCL, CL	SC, CH	A-7-6, A-2-6, A-6	0	0	71-100	69-100	56-100	31-70	35-58	17-36
	54-61	CL, GR-SCL, GR- CL, GR-L, SIL, L, SCL, GR-SL, SL, GR-SIL	CH, SC	A-6, A-2-6, A-7-6	0	0	71-100	69-100	58-100	33-70	37-58	19-36
Torriorthents, thin-----	0-2	L, SL	CL	A-4, A-6	0	0	100	100	88-100	63-75	26-39	9-19
	2-9	SL, L	CL	A-6, A-4	0	0	100	100	88-100	63-75	26-39	9-19
	9-17	LCOS, CL, C, SIC, FSL, SL	CL, SM, CH	A-4, A-7-6	0	0	100	100	62-100	42-86	19-59	3-36
	17-28	SL, LCOS, FSL, CL, SIC, C	CL, CH, SM	A-7-6, A-4	0	0	100	100	62-100	42-86	19-59	3-36
	28-38	C, SL, SIC, CL, FSL, LCOS	SC, CH, SM	A-7-6, A-2-4, A-4	0	0	100	100	68-100	31-75	18-57	3-36
	38-41	SL, FSL, LCOS, CL, C, SIC	CH, ML	A-7-6, A-4	0	0	100	100	65-100	60-100	21-60	3-37
	41-60	SIC, SL, LCOS, FSL, CL, C	CH, SM	A-4, A-7-6	0	0	100	100	56-100	39-83	20-60	3-37

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
734:												
Sodic Haplocambids, thick	0-3	SL, L	CL, CL-ML, ML	A-6, A-4	0	0	92-100	91-100	75-93	52-68	20-33	3-12
	3-12	SL, L	ML, CL, CL-ML	A-4, A-6	0	0	92-100	91-100	75-93	52-68	19-31	3-12
	12-18	SL, L	SM, CL, CL-ML	A-4, A-6	0	0	71-100	69-100	57-93	40-68	19-30	3-12
	18-24	GR-L, SIL, L, SCL, GR-SIL, CL, GR-SCL, GR-CL, SL, GR- SL	GM, CH, CL-ML	A-4, A-7-6	0	0	71-100	69-100	60-100	48-100	19-57	3-36
	24-27	GR-CL, CL, GR- L, SIL, L, SCL, GR-FSL, FSL, GR-SIL, GR-SCL	SC-SM, CH	A-4, A-2-4, A-7-6	0	0	71-100	70-100	62-100	28-82	19-57	4-36
	27-42	SL, GR-SIC, L, GR-CL, CL, GR- SL, SCL, GR- SCL, SIC, GR-L	GC, CH	A-7-6	0	0	70-100	69-100	46-100	43-100	50-60	29-37
	42-54	GR-CL, GR-L, SIL, L, SCL, CL, GR-SCL, GR-SIL, GR-SL, SL	CH, SC	A-7-6, A-2-6, A-6	0	0	71-100	69-100	56-100	31-70	35-58	17-36
	54-61	GR-CL, GR-L, SIL, L, SCL, GR-SL, SL, GR- SIL, GR-SCL, CL	CH, SC	A-6, A-2-6, A-7-6	0	0	71-100	69-100	58-100	33-70	37-58	19-36
Torriorthents, very thin, eroded-----	0-1	CL, L, SL, GR- CL, GR-L, GR- SL	CL, GC-GM	A-2-4, A-7-6	0	0	59-100	57-100	41-96	30-77	23-47	6-25
	1-16	GR-C, GR-SICL, GR-CL, C, SICL, CL	GC, CH, CL	A-6, A-7-6	0	0	58-100	56-100	50-100	39-87	38-55	19-32
	16-23	CL, SICL, C, GR-CL, GR- SICL, GR-C	CH, GC, CL	A-6, A-7-6	0	0	58-100	56-100	48-100	37-83	38-54	19-32
	23-33	GR-C, GR-SICL, GR-CL, C, CL, SICL	CL, CH, GC	A-6, A-7-6	0	0	58-100	56-100	48-100	37-83	37-54	19-32
	33-60	WB	---	---	---	---	---	---	---	---	---	---

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Soil Survey of Kern County, California, Southwest Part

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
734: Elkhills-----	0-4	LCOS, SL, FSL	SC, SC-SM, SM	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	SL, FSL, LCOS	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	LCOS, FSL, SL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	LCOS, SL, FSL	SC-SM, SC, SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	FSL, COSL, GR- FSL, LS, GR- LS, GR-L, SL, GR-SL, GRV-SL, GRV-LS, GR- COSL, GRV- COSL, GRV-L, L	SC-SM, SC, GM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	FSL, GR-FSL, COSL, GRV- COSL, GR-COSL, GRV-L, GR-L, L, GRV-LS, GR- LS, LS, GRV- SL, GR-SL, SL	SM, GM, SC-SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
735:												
Sodic Haplocambids, thick	0-3	L, SL	CL, CL-ML, ML	A-6, A-4	0	0	92-100	91-100	75-93	52-68	20-33	3-12
	3-12	L, SL	CL-ML, ML, CL	A-4, A-6	0	0	92-100	91-100	75-93	52-68	19-31	3-12
	12-18	L, SL	SM, CL-ML, CL	A-4, A-6	0	0	71-100	69-100	57-93	40-68	19-30	3-12
	18-24	L, GR-SL, SL, GR-SIL, GR- SCL, SCL, GR- L, GR-CL, CL, SIL	CH, CL-ML, GM	A-4, A-7-6	0	0	71-100	69-100	60-100	48-100	19-57	3-36
	24-27	GR-CL, GR-L, SIL, L, SCL, CL, GR-SCL, GR-FSL, FSL, GR-SIL	SC-SM, CH	A-4, A-2-4, A-7-6	0	0	71-100	70-100	62-100	28-82	19-57	4-36
	27-42	GR-SIC, SL, GR- SL, SCL, L, SIC, GR-L, GR- CL, GR-SCL, CL	CH	A-7-6	0	0	70-100	69-100	67-100	63-100	50-60	29-37
	42-54	CL, GR-SCL, GR- CL, GR-L, SIL, L, SCL, GR-SL, SL, GR-SIL	SC, CH	A-7-6, A-2-6, A-6	0	0	71-100	69-100	56-100	31-70	35-58	17-36
	54-61	CL, GR-SCL, GR- SIL, GR-L, SIL, L, SCL, SL, GR-SL, GR- CL	SC, CH	A-6, A-2-6, A-7-6	0	0	71-100	69-100	58-100	33-70	37-58	19-36
Elkhills-----	0-4	FSL, LCOS, SL	SM, SC-SM, SC	A-6, A-4	0	0	100	100	74-85	37-48	20-33	3-12
	4-10	SL, FSL, LCOS	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-31	3-12
	10-27	SL, FSL, LCOS	SC, SC-SM, SM	A-2-4, A-6	0	0	79-100	78-100	56-82	26-44	19-30	3-12
	27-34	LCOS, FSL, SL	SM, SC, SC-SM	A-2-4, A-6	0	0	79-100	78-100	58-85	29-48	19-30	3-12
	34-52	COSL, FSL, SL, GR-SL, GRV-SL, LS, GR-LS, GRV-LS, GR- COSL, GRV- COSL, GR-FSL, L, GR-L, GRV-L	SC, GM, SC-SM	A-2-4, A-6, A-1-b	0	0	50-92	48-92	29-66	16-42	18-30	3-12
	52-65	GRV-L, GR-L, L, GRV-LS, GR-LS, LS, GRV-SL, GR-SL, SL, GR- FSL, FSL, GRV- COSL, GR-COSL, COSL	SC-SM, GM, SM	A-2-4, A-1-b, A-4	0	0	50-92	48-92	30-64	18-41	0-22	1-6

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Soil Survey of Kern County, California, Southwest Part

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
735: Torriorthents, thin-----	0-2	SL, L	CL	A-4, A-6	0	0	100	100	88-100	63-75	26-39	9-19
	2-9	SL, L	CL	A-6, A-4	0	0	100	100	88-100	63-75	26-39	9-19
	9-17	SIC, C, CL, LCOS, SL, FSL	CL, SM, CH	A-4, A-7-6	0	0	100	100	62-100	42-86	19-59	3-36
	17-28	LCOS, FSL, SIC, C, CL, SL	CL, CH, SM	A-7-6, A-4	0	0	100	100	62-100	42-86	19-59	3-36
	28-38	C, SL, SIC, CL, FSL, LCOS	SC, CH, SM	A-7-6, A-2-4, A-4	0	0	100	100	68-100	31-75	18-57	3-36
	38-41	SIC, C, CL, FSL, SL, LCOS	CH, ML	A-7-6, A-4	0	0	100	100	65-100	60-100	21-60	3-37
	41-60	C, CL, FSL, LCOS, SL, SIC	CH, SM	A-4, A-7-6	0	0	100	100	56-100	39-83	20-60	3-37
750: Ballinger-----	0-3	SIC, C	CH	A-7-6	0	0	100	100	89-100	86-100	52-73	29-44
	3-15	C, SIC	CH, CL	A-7-6	0	0	100	100	89-100	86-100	49-68	28-44
	15-23	C, SIC	CL, CH	A-7-6	0	0	100	100	89-100	86-100	48-67	28-44
	23-36	C, SIC	CH, CL	A-7-6	0	0	100	100	89-100	86-100	48-67	28-44
	36-46	WB	---	---	---	---	---	---	---	---	---	---
760: Ballinger-----	0-3	C, SIC	CH	A-7-6	0	0	100	100	89-100	86-100	52-73	29-44
	3-15	C, SIC	CH, CL	A-7-6	0	0	100	100	89-100	86-100	49-68	28-44
	15-23	C, SIC	CH, CL	A-7-6	0	0	100	100	89-100	86-100	48-67	28-44
	23-36	C, SIC	CH, CL	A-7-6	0	0	100	100	89-100	86-100	48-67	28-44
	36-46	WB	---	---	---	---	---	---	---	---	---	---
780: Stutzville-----	0-1	L, CL, SICL	CL	A-6, A-4, A- 7-6	0	0	100	100	86-100	75-95	27-48	10-25
	1-7	L, CL, SICL	CL	A-6, A-7-6, A-4	0	0	100	100	86-100	75-95	27-46	10-25
	7-35	L, SICL, SIL, CL	CL	A-7-6, A-4	0	0	100	100	84-100	73-93	27-46	10-25
	35-48	CL, L, SICL, SIC, SIL	CL, CH	A-7-6, A-4	0	0	100	100	69-100	65-100	28-61	10-37
	48-66	L, CL, SIL, SICL, SIC	CH, CL	A-7-6, A-4	0	0	100	100	69-100	65-100	28-60	10-37
	66-72	L, LS, SL, FS	SM, SC	A-2-4, A-2-6	0	0	100	100	93-100	16-29	17-29	2-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
850: Xerofluvents-----	0-4	GRV-SL, GR-SL	GC-GM, SC, GC	A-2-4, A-1-b, A-2-6	0	0	50-72	48-71	33-57	16-30	20-30	4-12
	4-19	GRX-S, GRV- LCOS, GRX-LS, GRV-S, GRX-SL, GRV-SL, GRV- LS, GRX-LCOS	GW-GM, GC, GP-GM	A-1-a, A-2-6	0	0	24-55	21-53	16-49	6-23	0-30	NP-12
	19-31	GR-S, GR-LS, GRV-SL, GR-SL, GRV-S, GR- LCOS, GRV-LS, GRV-LCOS	SC, GP, SP-SM	A-1-b, A-2-6	0	0	50-72	48-71	36-65	4-17	0-30	NP-12
	31-40	GRV-S, GRX- LCOS, GRV- LCOS, GRV-SL, GRX-SL, GRV- LS, GRX-LS, GRX-S	GC, GP-GM	A-1-a, A-2-6	0	0	20-55	17-53	13-49	5-23	0-30	NP-12
	40-53	GR-S, GRV-S, GR-LCOS, GRV- LCOS, GR-LS, GRV-LS, GR-SL, GRV-SL	GP, SC, SP-SM	A-1-b, A-2-6	0	0	50-72	48-71	36-65	4-17	0-29	NP-12
	53-62	GR-LCOS, GR-S, GR-LS, GRV-LS, GR-SL, GRV-SL, GRV-S, GRV- LCOS	GM, SC, GC-GM	A-1-b, A-2-4, A-2-6	0	0	50-72	48-71	32-58	13-31	0-30	NP-12
860: Hawk-----	0-2	GR-SPM, GRV-SPM		A-1-a	---	---	---	---	---	---	---	---
	2-7	GRX-SL, GRV-SL, SL, GR-SL	SM, GP-GC, GM	A-1-a, A-2-4, A-6	0	0	31-85	28-84	20-69	9-37	23-37	4-12
	7-17	GRX-SL, GRV-SL, SL, GR-SL	GC-GM, GP-GC, SC	A-1-a, A-6, A-2-4	0	0	31-85	28-84	20-69	9-37	22-35	4-12
	17-39	SL, GR-SL, GRX- SL, GRV-SL	GC-GM, GP-GC, SC	A-6, A-2-4, A-1-a	0	0	31-85	28-84	20-69	9-37	20-31	4-12
	39-60	GRV-SL, GRX-SL, GR-SL, SL	GC-GM, GP-GC, SC	A-6, A-2-4, A-1-a	0	0-16	26-85	23-84	16-69	8-37	19-30	4-12

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
870: Frazier-----	0-4	GRV-SL, GR-SL	SC, GP-GC, GC	A-6, A-2-4, A-1-a	0	0-1	35-85	33-84	23-68	11-36	19-33	4-12
	4-12	GRV-SL, GRX-SL	GC, GP-GC, GP	A-2-6, A-1-a	0	0-1	16-54	13-52	9-41	4-22	19-30	4-12
	12-23	GRX-SL, GRV-LS, GRV-SL	GP, GP-GC, GC	A-1-a, A-2-6, A-2-4	0	0-1	16-54	13-52	9-43	4-23	19-30	4-12
	23-33	BR	---	---	---	---	---	---	---	---	---	---
880: Chuchupate-----	0-1	GRV-SPM, GR-SPM		A-1-a	---	---	---	---	---	---	---	---
	1-10	GRV-SCL, GRV- SL, GR-SCL, GR-SL	GM	A-1-b, A-7-6	0	0	47-77	45-76	35-70	19-43	23-41	2-13
	10-21	GRV-SCL, GRV-SL	GC-GM, GC, GW-GM	A-2-6, A-1-a, A-1-b	0	0	34-52	31-50	23-44	11-25	18-35	2-13
	21-36	GRX-SCL, GRV- SCL, GRV-SL, GRX-SL	GC, GW-GC, GP-GM	A-2-6, A-1-a	0	0	26-52	23-50	17-45	8-26	17-31	2-13
	36-46	BR	---	---	---	---	---	---	---	---	---	---
890: Gorman-----	0-7	SL, GR-SL	SM, SC-SM, SC	A-6, A-2-4	0	0	78-100	77-100	55-82	27-45	25-39	6-13
	7-15	GR-SL, SL	SC-SM, SC	A-2-6, A-2-4, A-6	0	0	78-100	77-100	52-78	23-40	23-37	6-13
	15-23	L, GR-L, GR- SCL, SCL	SC-SM, CL	A-6, A-7-6, A-4	0	0	77-100	76-100	57-92	40-70	24-41	6-19
	23-37	SCL, GR-SCL	CL, SC	A-2-6, A-6, A-7-6	0	0	77-100	76-100	64-99	35-61	32-47	13-25
	37-48	GR-SCL, SCL	CL, SC	A-2-6, A-6, A-7-6	0	0	77-100	76-100	61-95	33-59	31-47	13-25
	48-61	CL, GR-CL	SC, CL	A-6, A-7-6	0	0	77-100	76-100	62-96	47-77	31-46	13-25
919: Zonap-----	0-3	FSL, GR-FSL, SL, GR-SL	SC, SC-SM	A-4, A-6, A- 2-4	0	0	71-100	70-100	61-96	25-44	22-32	6-12
	3-10	FSL, GR-FSL, SL, GR-SL	GC-GM, SC	A-2-4, A-6, A-4	0	0	59-100	58-100	51-96	21-44	21-30	6-12
	10-26	GR-SL, GRV-SL, FSL, GR-FSL, SL, GRV-FSL	SC, GC-GM	A-1-b, A-6, A-4	0	0	39-100	37-100	32-96	13-44	21-29	6-12
	26-36	WB	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>											
919: Harrisranch-----	0-3	L, SL	SC, SC-SM	A-4, A-6, A-2-4	0	0	100	100	73-81	35-43	23-35	6-13
	3-23	SL, L	SC, SC-SM	A-2-4, A-6	0	0	100	100	71-79	35-43	22-33	6-13
	23-43	L, SL	SC, SC-SM	A-2-4, A-6	0	0	100	100	71-79	35-43	22-33	6-13
	43-65	L, SL	SC, SC-SM	A-6, A-2-4, A-4	0	0	100	100	71-79	35-43	21-32	6-13
Beam-----	0-3	GR-FSL, FSL, SL, GR-SL	SC, SC-SM, GC-GM	A-2-4, A-1-b, A-6	0	0	54-100	52-100	46-99	18-45	20-31	4-12
	3-15	FSL, GR-FSL, CB-FSL	SC-SM, SC	A-2-4, A-6	0	0-29	67-100	66-100	58-99	23-45	19-30	4-12
	15-25	WB	---	---	---	---	---	---	---	---	---	---
930: Bitcreek-----	0-3	SL, GR-CL, L, GR-SCL, SCL, GR-L, GR-SL	CH, SC	A-2-6, A-7-6	0	0	78-100	77-100	60-95	33-59	34-53	13-25
	3-8	GR-SCL, L, GR-CL, GR-L, SCL	SC, CL	A-7-6, A-2-6, A-6	0	0	78-100	77-100	60-95	33-59	31-49	13-25
	8-19	GR-CL, L, GR-SCL, SCL, GR-L	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	59-93	32-58	31-48	13-25
	19-31	GR-L, GR-SCL, L, GR-CL, SCL	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	55-88	29-54	30-47	13-25
	31-38	GR-L, SCL, GR-SCL, L, GR-CL	CL, SC	A-6, A-7-6, A-2-6	0	0	78-100	77-100	59-93	32-58	30-46	13-25
	38-60	L, GR-L, SCL, GR-SCL, GR-C, C, GR-CL	SC, CH	A-6, A-7-6	0	0	76-100	75-100	47-98	38-86	32-65	13-40
Shimmon-----	0-1	L, CL, GR-CL, GR-L	CL, ML, SC	A-7-6, A-6	0	0	77-92	76-91	65-87	48-67	35-49	13-21
	1-5	CL, L, GR-CL, GR-L	SC, CL	A-6, A-7-6	0	0	77-92	76-91	65-87	48-67	33-47	13-21
	5-11	GR-L, L, CL, GR-CL	CL, SC	A-6, A-7-6	0	0	77-92	76-91	60-86	45-68	32-48	13-25
	11-15	GR-L, CL, L, GR-CL	CL, GC	A-6, A-7-6	0	0	71-92	69-91	57-89	44-71	31-46	13-25
	15-21	GR-CL, CL, GR-L, L	CL, GC	A-6, A-7-6	0	0	64-84	63-84	52-81	40-65	31-46	13-25
	21-31	WB	---	---	---	---	---	---	---	---	---	---
Balhud-----	0-3	L, GR-L	CL, SC	A-6	0	0	77-92	76-91	65-86	47-65	29-40	12-19
	3-10	GR-CL, CL	CL	A-6, A-7-6	0	0	77-92	76-91	66-90	51-72	38-50	20-29
	10-18	WB	---	---	---	---	---	---	---	---	---	---
	18-28	BR	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
932: Bitcreek-----	0-3	L, GR-CL, SL, GR-SL, GR-L, SCL, GR-SCL	CH, SC	A-2-6, A-7-6	0	0	78-100	77-100	60-95	33-59	34-53	13-25
	3-8	GR-CL, L, GR-L, SCL, GR-SCL	SC, CL	A-7-6, A-2-6, A-6	0	0	78-100	77-100	60-95	33-59	31-49	13-25
	8-19	GR-L, L, SCL, GR-SCL, GR-CL	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	59-93	32-58	31-48	13-25
	19-31	L, GR-L, SCL, GR-SCL, GR-CL	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	55-88	29-54	30-47	13-25
	31-38	GR-CL, L, GR- SCL, SCL, GR-L	SC, CL	A-6, A-7-6, A-2-6	0	0	78-100	77-100	59-93	32-58	30-46	13-25
	38-60	C, GR-C, GR-CL, L, GR-SCL, SCL, GR-L	CH, SC	A-6, A-7-6	0	0	76-100	75-100	47-98	38-86	32-65	13-40
Shimmon-----	0-1	CL, L, GR-L, GR-CL	CL, ML, SC	A-6, A-7-6	0	0	77-92	76-91	65-87	48-67	35-49	13-21
	1-5	GR-L, GR-CL, CL, L	CL, SC	A-6, A-7-6	0	0	77-92	76-91	65-87	48-67	33-47	13-21
	5-11	GR-L, GR-CL, CL, L	CL, SC	A-6, A-7-6	0	0	77-92	76-91	60-86	45-68	32-48	13-25
	11-15	GR-L, GR-CL, L, CL	CL, GC	A-6, A-7-6	0	0	71-92	69-91	57-89	44-71	31-46	13-25
	15-21	L, CL, GR-CL, GR-L	CL, GC	A-6, A-7-6	0	0	64-84	63-84	52-81	40-65	31-46	13-25
	21-31	WB	---	---	---	---	---	---	---	---	---	---
Balhud-----	0-3	GR-L, L	CL, SC	A-6	0	0	77-92	76-91	65-86	47-65	29-40	12-19
	3-10	CL, GR-CL	CL	A-6, A-7-6	0	0	77-92	76-91	66-90	51-72	38-50	20-29
	10-18	WB	---	---	---	---	---	---	---	---	---	---
	18-28	BR	---	---	---	---	---	---	---	---	---	---

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Soil Survey of Kern County, California, Southwest Part

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
940: Bitcreek-----	0-3	L, GR-SCL, SCL, GR-L, SL, GR- CL, GR-SL	CH, SC	A-2-6, A-7-6	0	0	78-100	77-100	55-87	29-54	34-53	13-25
	3-8	SCL, GR-L, GR- SCL, L, GR-CL	CL, SC	A-7-6, A-2-6, A-6	0	0	78-100	77-100	60-95	33-59	31-49	13-25
	8-19	GR-CL, L, GR-L, GR-SCL, SCL	SC, CL	A-2-6, A-7-6	0	0	78-100	77-100	59-93	32-58	31-48	13-25
	19-31	L, GR-L, SCL, GR-SCL, GR-CL	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	55-88	29-54	30-47	13-25
	31-38	L, GR-L, SCL, GR-SCL, GR-CL	CL, SC	A-6, A-7-6, A-2-6	0	0	78-100	77-100	59-93	32-58	30-46	13-25
	38-60	C, GR-C, GR-CL, GR-SCL, SCL, GR-L, L	SC, CH	A-6, A-7-6	0	0	76-100	75-100	47-98	38-86	32-65	13-40
950: Pleito-----	0-4	GR-FSL, FSL, SCL, GR-SCL	CL, SC, SC-SM	A-7-6, A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	25-41	6-17
	4-8	GR-FSL, GR-SCL, FSL, SCL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	79-100	78-100	59-91	28-51	23-38	6-17
	8-18	GR-FSL, FSL, SCL, GR-SCL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-17
	18-25	GR-FSL, GR-SCL, FSL, SCL	SC, SC-SM, CL	A-2-4, A-6	0	0-1	78-100	77-100	58-90	28-51	23-38	6-18
	25-32	GR-SCL, GR-FSL, FSL, SCL	SC, SC-SM, CL	A-1-b, A-6	0	0-8	64-100	63-100	47-90	22-51	21-36	6-17
	32-46	GR-SCL, FSL, SCL, GR-FSL, GRV-SCL, GRV- FSL	SC, GC-GM, CL	A-1-b, A-2-6, A-6	0-16	0-8	59-100	57-100	43-90	20-51	21-35	6-17
	46-56	GR-SCL, GR-SL, SL, GRV-SCL, GRV-SL, SCL	SC, SC-SM, CL	A-6, A-1-b	0-8	0-8	63-100	61-100	46-90	22-51	21-35	6-17
	56-64	GR-SL, SL, GRV- SCL, GRV-SL, SCL, GR-SCL	SC, SC-SM	A-1-b, A-6	0-8	0-8	62-100	60-100	45-90	22-51	21-35	6-17
	64-80	GR-SCL, GR-L, L, GRV-SL, GRV-L, SL	CL, GC, GC-GM	A-1-b, A-2-6, A-6	0-8	0-8	48-100	46-100	35-91	17-51	21-35	6-17
Ballinger-----	0-3	C, SIC	CH	A-7-6	0	0	100	100	89-100	86-100	52-73	29-44
	3-15	C, SIC	CH, CL	A-7-6	0	0	100	100	89-100	86-100	49-68	28-44
	15-23	SIC, C	CL, CH	A-7-6	0	0	100	100	89-100	86-100	48-67	28-44
	23-36	C, SIC	CH, CL	A-7-6	0	0	100	100	89-100	86-100	48-67	28-44
	36-46	WB	---	---	---	---	---	---	---	---	---	---

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Soil Survey of Kern County, California, Southwest Part

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In											
950:												
Balhud-----	0-3	L, GR-L	SC, CL	A-6	0	0	77-92	76-91	65-86	47-65	29-40	12-19
	3-10	CL, GR-CL	CL	A-6, A-7-6	0	0	77-92	76-91	66-90	51-72	38-50	20-29
	10-18	WB	---	---	---	---	---	---	---	---	---	---
	18-28	BR	---	---	---	---	---	---	---	---	---	---
951:												
Bitcreek-----	0-3	GR-L, L, SCL, GR-SCL, GR-CL, SL, GR-SL	SC, CH	A-2-6, A-7-6	0	0	78-100	77-100	60-95	33-59	34-53	13-25
	3-8	GR-L, GR-CL, L, GR-SCL, SCL	CL, SC	A-7-6, A-2-6, A-6	0	0	78-100	77-100	60-95	33-59	31-49	13-25
	8-19	GR-CL, L, GR- SCL, GR-L, SCL	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	59-93	32-58	31-48	13-25
	19-31	GR-CL, L, GR- SCL, SCL, GR-L	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	55-88	29-54	30-47	13-25
	31-38	GR-L, L, GR-CL, SCL, GR-SCL	CL, SC	A-6, A-7-6, A-2-6	0	0	78-100	77-100	59-93	32-58	30-46	13-25
	38-60	C, GR-C, GR-CL, L, GR-SCL, SCL, GR-L	SC, CH	A-6, A-7-6	0	0	76-100	75-100	47-98	38-86	32-65	13-40
Balhud-----	0-3	GR-L, L	CL, SC	A-6	0	0	77-92	76-91	65-86	47-65	29-40	12-19
	3-10	GR-CL, CL	CL	A-6, A-7-6	0	0	77-92	76-91	66-90	51-72	38-50	20-29
	10-18	WB	---	---	---	---	---	---	---	---	---	---
	18-28	BR	---	---	---	---	---	---	---	---	---	---
Ballinger-----	0-3	C, SIC	CH	A-7-6	0	0	100	100	89-100	86-100	52-73	29-44
	3-15	C, SIC	CH, CL	A-7-6	0	0	100	100	89-100	86-100	49-68	28-44
	15-23	SIC, C	CH, CL	A-7-6	0	0	100	100	89-100	86-100	48-67	28-44
	23-36	SIC, C	CH, CL	A-7-6	0	0	100	100	89-100	86-100	48-67	28-44
	36-46	WB	---	---	---	---	---	---	---	---	---	---
954:												
Typic Haploxeralfs, fine-	0-1	C, GR-CL, CL, GR-C	CH, CL, GC	A-6, A-7-6	0	0	70-92	69-91	61-91	47-89	39-66	19-40
	1-12	CL, GR-C, C, GR-CL	CH, GC, CL	A-7-6, A-6	0	0-8	69-92	67-91	55-91	42-83	38-64	19-40
	12-19	GR-CL, GRV-C, GR-C, GRV-CL, CBX-C, CBX-CL	GP-GC, CH, GC	A-7-6, A-2-7, A-2-6	0	8-24	22-76	19-74	15-74	11-66	37-63	19-40
	19-24	GR-C, C, GR-CL, CL, CBX-C, CBX-CL	GC, CH	A-2-6, A-7-6	0	0-31	44-92	41-91	30-91	25-81	38-64	19-40
	24-34	WB	---	---	---	---	---	---	---	---	---	---

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
954: Haploxerolls, coarse- loamy-----	0-4	GR-SL, SL	SC-SM, SM, SC	A-1-b, A-6, A-2-4	0	0	63-100	61-100	44-79	21-42	25-36	6-11
	4-17	STV-SL, SL, ST- SL, CB-SL, CBV-SL, GRV- SL, GR-SL	GC-GM, SC	A-2-4, A-6, A-1-a	0-26	0-38	43-100	40-100	29-79	14-42	22-30	6-11
	17-34	SL, CBX-SL, STV-SL, ST-SL, CBV-SL, CB-SL, GRV-SL, GR-SL	SC, GP-GC, GC	A-1-a, A-2-4, A-6	0-26	0-68	22-100	18-100	13-79	6-42	20-28	6-11
	34-44	BR	---	---	---	---	---	---	---	---	---	---
955: Calcic Haploxerepts-----	0-4	L, GR-L, CL, GR-CL, SICL, GR-SICL	CL, GC, CH	A-6, A-7-6	0	0	70-100	69-100	56-96	43-77	33-51	13-25
	4-9	GR-L, CL, GR- CL, SICL, GR- SICL, L	GC, CL	A-7-6, A-6	0	0	70-100	69-100	56-96	43-77	32-49	13-25
	9-18	GR-L, GR-SICL, SICL, GR-CL, CL, L	CL, GC	A-7-6, A-2-6	0	0	58-100	56-100	46-96	35-77	32-47	13-25
	18-25	GR-L, CL, GR- CL, GR-SICL, SICL, L	CL, GC	A-7-6, A-6	0	0	70-100	69-100	56-96	43-77	31-46	13-25
	25-37	GR-SICL, SICL, GR-CL, CL, GR- L, L	CL, GC	A-7-6, A-6	0	0	70-100	69-100	56-96	43-77	31-46	13-25
	37-60	L, CL, GR-L, GR-CL, SICL, GR-SICL	GC, CL	A-7-6, A-6	0	0	70-100	69-100	58-100	43-78	31-46	13-25
Xerorthents, shallow-----	0-8	GR-SCL, SCL	CL, SC	A-7-6, A-6	0	0	100	100	82-96	45-59	30-43	13-24
	8-13	GR-LS, GR-SL, SL, LS	SM, SC	A-4, A-6, A- 2-4	0	0	100	100	68-82	30-44	16-29	2-13
	13-23	WB	---	---	---	---	---	---	---	---	---	---
Badlands.												

Table 17.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
970: Harrisranch-----	0-3	L, SL	SC-SM, SC	A-4, A-6, A-2-4	0	0	100	100	73-81	35-43	23-35	6-13
	3-23	L, SL	SC, SC-SM	A-2-4, A-6	0	0	100	100	71-79	35-43	22-33	6-13
	23-43	L, SL	SC, SC-SM	A-2-4, A-6	0	0	100	100	71-79	35-43	22-33	6-13
	43-65	SL, L	SC-SM, SC	A-6, A-2-4, A-4	0	0	100	100	71-79	35-43	21-32	6-13
Bitcreek-----	0-3	SL, GR-CL, L, GR-SCL, SCL, GR-L, GR-SL	SC, CH	A-2-6, A-7-6	0	0	78-100	77-100	60-95	33-59	34-53	13-25
	3-8	GR-CL, L, GR-SCL, SCL, GR-L	CL, SC	A-7-6, A-2-6, A-6	0	0	78-100	77-100	60-95	33-59	31-49	13-25
	8-19	L, GR-CL, GR-L, GR-SCL, SCL	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	59-93	32-58	31-48	13-25
	19-31	SCL, GR-L, L, GR-CL, GR-SCL	CL, SC	A-2-6, A-7-6	0	0	78-100	77-100	55-88	29-54	30-47	13-25
	31-38	GR-SCL, L, GR-CL, GR-L, SCL	CL, SC	A-6, A-7-6, A-2-6	0	0	78-100	77-100	59-93	32-58	30-46	13-25
	38-60	L, GR-L, SCL, GR-SCL, GR-CL, GR-C, C	SC, CH	A-6, A-7-6	0	0	76-100	75-100	47-98	38-86	32-65	13-40
980: Area not surveyed, access denied.												
W: Water.												

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Soil Survey of Kern County, California, Southwest Part

Table 18.--Abbreviations Used in the Column "USDA Texture" in Table 17

USDA texture class terms	Terms used in lieu of USDA texture class terms	Texture modifiers*
C--clay	AM--artifactual material	ART--artifactual
CL--clay loam	BR--bedrock	ARTV--very artifactual
COS--coarse sand	BY--boulders	ARTX--extremely artifactual
COSL--coarse sandy loam	CB--cobbles	ASHY--ashy
FS--fine sand	CN--channers	BY--bouldery
FSL--fine sandy loam	FL--flagstones	BYV--very bouldery
L--loam	G--gravel	BYX--extremely bouldery
LCOS--loamy coarse sand	HPM--highly decomposed plant material	CB--cobbly
LFS--loamy fine sand	MAT--material	CBV--very cobbly
LS--loamy sand	MPM--moderately decomposed plant material	CBX--extremely cobbly
LVFS--loamy very fine sand	MPT--mucky peat	CEM--cemented
S--sand	MUCK--muck	CN--channery
SC--sandy clay	PBY--paraboulders	CNV--very channery
SCL--sandy clay loam	PCB--paracobbles	CNX--extremely channery
SI--silt	PCN--parachanners	COP--coprogenous
SIC--silty clay	PEAT--peat	DIA--diatomaceous
SICL--silty clay loam	PFL--paraflagstones	FL--flaggy
SIL--silt loam	PG--paragravel	FLV--very flaggy
SIL--sandy loam	PST--parastones	FLX--extremely flaggy
VFS--very fine sand	SPM--slightly decomposed plant material	GR--gravelly
VFSL--very fine sandy loam	ST--stones	GRC--coarse gravelly
	UWB--unweathered bedrock	GRF--fine gravelly
	W--water	GRM--medium gravelly
	WB--weathered bedrock	GRV--very gravelly
		GRX--extremely gravelly
		GS--grassy
		GYP--gypsiferous
		HB--herbaceous
		HYDR--hydrous
		MEDL--medial
		MK--mucky
		MR--marly
		MS--mossy
		ORH--highly organic
		PBY--parabouldery
		PBYV--very parabouldery
		PBYX--extremely parabouldery
		PCB--paracobbly
		PCBV--very paracobbly
		PCBX--extremely paracobbly
		PCN--parachannery
		PCNV--very parachannery
		PCNX--extremely parachannery
		PF--permanently frozen
		PFL--paraflaggy
		PFLV--very paraflaggy
		PFLX--extremely paraflaggy
		PGR--paragravelly
		PGRV--very paragravelly
		PGRX--extremely paragravelly
		PST--parastony
		PSTV--very parastony
		PSTX--extremely parastony
		PT--peaty
		ST--stony
		SR--stratified
		STV--very stony
		STX--extremely stony
		WD--woody

* Some of the texture modifiers apply only to the USDA texture class terms or to the terms used in lieu of those texture class terms, and some apply to both. For further explanation, see part 618.68 of the "National Soil Survey Handbook" (<http://soils.usda.gov/technical/handbook/contents/part618.html#68>).

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
101: Bakersfield, drained-----	0-3	5-18	1.50-1.60	4.00-14.00	0.16-0.18	0.6-2.2	1.0-3.0
	3-10	5-18	1.50-1.60	4.00-14.00	0.15-0.17	0.6-2.2	1.0-2.0
	10-16	5-18	1.50-1.60	4.00-14.00	0.11-0.13	0.6-2.2	0.5-2.0
	16-29	3-18	1.50-1.60	14.00-42.00	0.11-0.13	0.4-2.2	0.3-0.6
	29-45	3-18	1.50-1.60	4.00-14.00	0.19-0.22	0.4-2.6	0.1-0.5
	45-51	12-25	1.45-1.55	14.00-42.00	0.17-0.19	1.8-3.4	0.2-0.8
	51-58	18-27	1.45-1.55	4.00-14.00	0.19-0.22	2.7-3.9	0.2-0.8
	58-66	2-8	1.60-1.70	141.00-282.00	0.05-0.07	0.3-0.7	0.1-0.2
102: Bakersfield, partially drained-----	0-3	5-18	1.50-1.60	4.00-14.00	0.16-0.18	0.6-2.2	1.0-3.0
	3-10	5-18	1.50-1.60	4.00-14.00	0.15-0.17	0.6-2.2	1.0-2.0
	10-16	5-18	1.50-1.60	4.00-14.00	0.11-0.13	0.6-2.2	0.5-2.0
	16-29	3-18	1.50-1.60	14.00-42.00	0.11-0.13	0.4-2.2	0.3-0.6
	29-45	3-18	1.50-1.60	4.00-14.00	0.19-0.22	0.4-2.6	0.1-0.5
	45-51	12-25	1.45-1.55	14.00-42.00	0.17-0.19	1.8-3.4	0.2-0.8
	51-58	18-27	1.45-1.55	4.00-14.00	0.19-0.22	2.7-3.9	0.2-0.8
	58-66	2-8	1.60-1.70	141.00-282.00	0.05-0.07	0.3-0.7	0.1-0.2
110: Buttonwillow, partially drained-----	0-8	40-55	1.35-1.45	0.40-1.40	0.11-0.13	1.0-3.0	1.0-2.0
	8-24	40-55	1.35-1.45	0.40-1.40	0.09-0.11	1.0-3.0	1.0-2.0
	24-30	40-55	1.35-1.45	0.40-1.40	0.09-0.11	1.0-3.0	0.5-1.0
	30-36	5-18	1.50-1.60	4.00-14.00	0.15-0.17	1.0-3.0	0.1-0.5
	36-43	5-10	1.45-1.55	42.00-141.00	0.08-0.10	1.0-3.0	0.1-0.5
	43-60	25-40	1.45-1.55	0.40-1.40	0.18-0.20	1.0-3.0	0.2-0.5
	60-67	25-40	1.45-1.55	0.40-1.40	0.18-0.20	1.0-3.0	0.2-0.8
	67-70	10-20	1.55-1.65	0.40-1.40	0.20-0.22	1.0-3.0	0.2-0.5
120: Granoso-----	0-10	4-12	1.50-1.70	14.00-42.00	0.09-0.15	1.0-3.0	0.5-0.9
	10-20	4-12	1.50-1.70	42.00-141.00	0.08-0.14	1.0-3.0	0.2-0.4
	20-36	4-12	1.50-1.70	141.00-282.00	0.05-0.11	1.0-3.0	0.1-0.3
	36-62	4-12	1.50-1.70	141.00-282.00	0.04-0.10	1.0-3.0	0.1-0.2
121: Granoso-----	0-10	4-12	1.50-1.70	14.00-142.00	0.09-0.15	1.0-3.0	0.5-0.9
	10-20	4-12	1.50-1.70	42.00-141.00	0.08-0.14	1.0-3.0	0.2-0.4
	20-36	4-12	1.50-1.70	141.00-282.00	0.05-0.11	1.0-3.0	0.1-0.3
	36-62	4-12	1.50-1.70	141.00-282.00	0.04-0.10	1.0-3.0	0.1-0.2
122: Granoso, loamy substratum----	0-10	4-12	1.50-1.70	14.00-42.00	0.09-0.12	1.0-3.0	0.5-0.9
	10-20	4-12	1.50-1.70	42.00-141.00	0.08-0.14	1.0-3.0	0.2-0.4
	20-36	4-12	1.50-1.70	141.00-282.00	0.05-0.11	1.0-3.0	0.1-0.3
	36-62	4-12	1.50-1.70	14.00-128.00	0.10-0.22	1.0-3.0	0.1-0.2
123: Granoso-----	0-10	4-12	1.50-1.70	14.00-42.00	0.09-0.15	1.0-3.0	0.5-0.9
	10-20	4-12	1.50-1.70	14.00-42.00	0.08-0.14	1.0-3.0	0.2-0.4
	20-36	4-12	1.50-1.70	141.00-282.00	0.05-0.11	1.0-3.0	0.1-0.3
	36-62	4-12	1.50-1.70	141.00-282.00	0.04-0.10	1.0-3.0	0.1-0.2
124: Granoso-----	0-10	4-12	1.50-1.70	14.00-42.00	0.07-0.11	1.0-3.0	0.5-0.9
	10-20	4-12	1.50-1.70	42.00-141.00	0.06-0.13	1.0-3.0	0.2-0.4
	20-36	4-12	1.50-1.70	141.00-282.00	0.04-0.10	1.0-3.0	0.1-0.3
	36-62	4-12	1.50-1.70	141.00-282.00	0.03-0.09	1.0-3.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
130: Cerini-----	0-10	10-18	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	0.8-1.0
	10-17	20-40	1.45-1.55	4.00-14.00	0.17-0.19	1.0-3.0	0.6-1.0
	17-24	20-40	1.45-1.55	4.00-14.00	0.17-0.19	1.0-3.0	0.2-1.0
	24-47	8-40	1.50-1.60	4.00-14.00	0.15-0.17	1.0-3.0	0.1-1.0
	47-69	8-40	1.50-1.60	14.00-42.00	0.11-0.13	3.0-5.0	0.1-1.0
131: Calflax-----	0-6	14-30	1.40-1.50	4.00-14.00	0.16-0.18	1.0-3.0	0.5-1.0
	6-21	27-40	1.40-1.50	4.00-14.00	0.15-0.22	1.0-3.0	0.3-1.0
	21-30	27-40	1.45-1.55	1.40-4.00	0.15-0.22	1.0-3.0	0.3-1.0
	30-37	27-40	1.45-1.55	1.40-14.00	0.15-0.22	2.0-6.0	0.5-1.0
	37-46	10-18	1.50-1.60	4.00-14.00	0.12-0.13	2.0-6.0	0.1-0.4
	46-52	10-25	1.45-1.55	4.00-14.00	0.12-0.13	1.0-3.0	0.1-0.4
	52-60	10-25	1.45-1.55	4.00-14.00	0.11-0.13	2.0-6.0	0.1-0.3
132: Cerini-----	0-10	20-40	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	0.8-1.0
	10-17	20-40	1.45-1.55	4.00-14.00	0.17-0.19	1.0-3.0	0.6-1.0
	17-24	20-40	1.45-1.55	4.00-14.00	0.17-0.19	1.0-3.0	0.2-1.0
	24-47	8-40	1.50-1.60	4.00-14.00	0.15-0.17	1.0-3.0	0.1-1.0
	47-69	8-40	1.50-1.60	14.00-42.00	0.11-0.13	3.0-5.0	0.1-1.0
133: Calflax-----	0-6	16-25	1.40-1.50	4.00-14.00	0.20-0.22	3.0-6.0	0.5-1.0
	6-21	27-40	1.40-1.50	1.40-4.00	0.15-0.17	3.0-6.0	0.3-1.0
	21-30	27-40	1.45-1.55	1.40-4.00	0.15-0.17	3.0-6.0	0.3-1.0
	30-37	27-40	1.45-1.55	1.40-4.00	0.15-0.17	3.0-6.0	0.5-1.0
	37-46	10-18	1.50-1.60	14.00-42.00	0.08-0.09	0.0-2.0	0.1-0.4
	46-52	10-25	1.45-1.55	4.00-14.00	0.12-0.13	0.0-2.0	0.1-0.4
	52-60	10-25	1.45-1.55	4.00-14.00	0.11-0.13	0.0-2.0	0.1-0.3
134: Cerini-----	0-10	20-40	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	0.8-1.0
	10-17	20-40	1.45-1.55	4.00-14.00	0.17-0.19	1.0-3.0	0.6-1.0
	17-24	20-40	1.45-1.55	4.00-14.00	0.17-0.19	1.0-3.0	0.2-1.0
	24-47	8-40	1.50-1.60	4.00-14.00	0.15-0.17	1.0-3.0	0.1-1.0
	47-69	8-40	1.50-1.60	14.00-42.00	0.11-0.13	3.0-5.0	0.1-1.0
140: Copus silty clay, partially drained-----	0-5	40-60	0.90-1.20	0.40-1.40	0.12-0.14	7.0-9.0	3.0-6.0
	5-17	40-60	0.90-1.20	0.40-1.40	0.11-0.13	7.0-9.0	3.0-6.0
	17-23	34-70	0.90-1.20	0.40-1.40	0.09-0.11	7.0-9.0	3.0-5.0
	23-39	34-70	0.90-1.20	0.40-1.40	0.09-0.11	7.0-9.0	2.0-4.0
	39-51	34-60	0.90-1.20	0.40-1.40	0.11-0.13	7.0-9.0	0.8-2.0
	51-60	35-70	0.90-1.20	0.40-1.40	0.08-0.10	7.0-9.0	1.0-2.5
141: Copus clay, partially drained-----	0-5	40-65	0.90-1.20	0.40-1.40	0.11-0.13	7.0-9.0	3.0-6.0
	5-17	40-65	0.90-1.20	0.40-1.40	0.09-0.11	7.0-9.0	3.0-6.0
	17-23	50-70	0.90-1.20	0.40-1.40	0.09-0.11	7.0-9.0	3.0-5.0
	23-39	50-70	0.90-1.20	0.40-1.40	0.09-0.11	7.0-9.0	2.0-4.0
	39-51	40-60	0.90-1.20	0.40-1.40	0.11-0.13	7.0-9.0	0.8-2.0
	51-60	35-70	0.90-1.20	0.40-1.40	0.08-0.10	7.0-9.0	1.0-2.5

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
150: Excelsior-----	0-8	5-18	1.50-1.65	14.00-42.00	0.13-0.15	1.0-3.0	0.5-1.0
	8-19	5-18	1.50-1.65	14.00-42.00	0.15-0.17	1.0-3.0	0.2-0.8
	19-25	5-18	1.50-1.65	14.00-42.00	0.12-0.14	1.0-3.0	0.1-0.5
	25-36	5-18	1.60-1.80	14.00-42.00	0.15-0.17	1.0-3.0	0.1-0.5
	36-41	12-18	1.10-1.30	4.00-14.00	0.20-0.22	3.0-5.0	0.2-1.5
	41-48	3-8	1.20-1.45	42.00-141.00	0.08-0.10	1.0-3.0	0.1-0.3
	48-62	5-18	1.10-1.30	4.00-14.00	0.17-0.19	1.0-3.0	0.1-0.5
151: Excelsior, saline-sodic-----	0-8	5-18	1.50-1.65	14.00-42.00	0.16-0.18	1.0-3.0	0.5-1.0
	8-19	5-18	1.50-1.65	14.00-42.00	0.15-0.17	1.0-3.0	0.2-0.8
	19-25	5-18	1.50-1.65	14.00-42.00	0.12-0.14	1.0-3.0	0.1-0.5
	25-36	5-18	1.60-1.80	14.00-42.00	0.15-0.17	1.0-3.0	0.1-0.5
	36-41	12-18	1.10-1.30	4.00-14.00	0.20-0.22	3.0-5.0	0.2-1.5
	41-48	3-8	1.20-1.45	42.00-141.00	0.08-0.10	1.0-3.0	0.1-0.3
	48-62	5-18	1.10-1.30	4.00-14.00	0.17-0.19	1.0-3.0	0.1-0.5
152: Excelsior-----	0-8	5-18	1.50-1.65	4.00-14.00	0.20-0.22	1.0-3.0	0.5-1.0
	8-19	5-18	1.50-1.65	4.00-14.00	0.17-0.19	1.0-3.0	0.2-0.8
	19-25	5-18	1.50-1.65	14.00-42.00	0.12-0.14	1.0-3.0	0.1-0.5
	25-36	5-18	1.60-1.80	14.00-42.00	0.15-0.17	1.0-3.0	0.1-0.5
	36-41	12-18	1.10-1.30	4.00-14.00	0.20-0.22	3.0-5.0	0.2-1.5
	41-48	3-8	1.20-1.45	42.00-141.00	0.08-0.10	1.0-3.0	0.1-0.3
	48-62	5-18	1.10-1.30	4.00-14.00	0.17-0.19	1.0-3.0	0.1-0.5
153: Tupman-----	0-6	10-18	1.50-1.60	4.00-14.00	0.08-0.12	0.0-3.0	0.8-1.5
	6-14	10-18	1.50-1.60	4.00-14.00	0.10-0.13	0.0-3.0	0.5-0.9
	14-30	5-18	1.40-1.65	4.00-141.00	0.06-0.11	0.0-3.0	0.6-1.0
	30-37	5-18	1.40-1.65	4.00-42.00	0.10-0.13	0.0-3.0	0.1-0.3
	37-48	5-14	1.50-1.60	14.00-42.00	0.09-0.13	0.0-3.0	0.3-0.4
	48-60	5-14	1.55-1.65	42.00-141.00	0.05-0.08	0.0-3.0	0.1-0.2
154: Tupman-----	0-6	10-18	1.50-1.60	4.00-14.00	0.08-0.12	0.0-3.0	0.8-1.5
	6-14	10-18	1.50-1.60	4.00-14.00	0.10-0.13	0.0-3.0	0.5-0.9
	14-30	5-18	1.40-1.65	4.00-141.00	0.06-0.11	0.0-3.0	0.6-1.0
	30-37	5-18	1.40-1.65	4.00-42.00	0.10-0.13	0.0-3.0	0.1-0.3
	37-48	5-14	1.50-1.60	14.00-42.00	0.09-0.13	0.0-3.0	0.3-0.4
	48-60	5-14	1.55-1.65	42.00-141.00	0.05-0.08	0.0-3.0	0.1-0.2
Urban land.							
160: Fages-----	0-7	40-55	1.30-1.65	0.04-1.40	0.12-0.14	6.0-8.0	0.5-1.2
	7-22	40-55	1.30-1.65	0.04-1.40	0.08-0.09	6.0-8.0	0.5-1.2
	22-30	40-55	1.30-1.70	0.04-1.40	0.08-0.09	9.0-12.0	0.2-0.6
	30-48	40-55	1.10-1.30	0.04-1.40	0.07-0.08	9.0-12.0	0.2-0.6
	48-56	8-55	1.10-1.30	4.00-14.00	0.12-0.14	1.0-3.0	0.2-0.6
	56-58	8-55	1.10-1.30	4.00-14.00	0.14-0.15	3.0-6.0	0.2-0.6
	58-65	8-55	1.10-1.30	0.04-1.40	0.07-0.08	6.0-11.0	0.2-0.6
179: Padres-----	0-3	8-18	1.50-1.60	14.00-42.00	0.11-0.18	1.0-3.0	0.5-1.0
	3-16	8-18	1.50-1.60	14.00-42.00	0.11-0.18	1.0-3.0	0.2-0.4
	16-30	8-18	1.55-1.65	4.00-42.00	0.07-0.16	1.0-3.0	0.0-0.2
	30-38	8-18	1.45-1.55	4.00-42.00	0.11-0.18	1.0-3.0	0.0-0.1
	38-46	8-18	1.50-1.60	4.00-42.00	0.11-0.18	1.0-3.0	0.0-0.1
	46-62	8-18	1.55-1.65	4.00-42.00	0.07-0.16	1.0-3.0	0.0-0.1

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
180: Garces-----	0-7	15-27	1.45-1.55	4.00-14.00	0.20-0.22	3.0-6.0	0.8-1.2
	7-14	28-35	1.40-1.50	1.40-4.00	0.17-0.19	3.0-6.0	0.5-1.0
	14-24	15-35	1.40-1.50	1.40-4.00	0.11-0.12	3.0-6.0	0.2-0.8
	24-37	15-35	1.45-1.55	4.00-14.00	0.12-0.13	1.0-3.0	0.2-0.4
	37-55	10-20	1.50-1.60	4.00-14.00	0.10-0.11	1.0-3.0	0.1-0.3
	55-64	10-20	1.50-1.60	14.00-42.00	0.10-0.11	1.0-3.0	0.1-0.2
190: Gujarral-----	0-1	8-18	1.45-1.60	4.00-14.00	0.12-0.15	1.0-3.0	0.8-1.2
	1-4	8-18	1.45-1.60	14.00-42.00	0.12-0.15	1.0-3.0	0.5-1.0
	4-16	8-18	1.45-1.60	14.00-42.00	0.11-0.14	1.0-3.0	0.4-0.6
	16-29	8-18	1.45-1.60	4.00-14.00	0.08-0.12	1.0-3.0	0.3-0.5
	29-40	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.2-0.4
	40-46	8-18	1.45-1.60	14.00-42.00	0.08-0.11	1.0-3.0	0.1-0.3
	46-51	8-18	1.45-1.60	4.00-14.00	0.05-0.08	1.0-3.0	0.1-0.2
	51-60	8-18	1.45-1.60	4.00-14.00	0.05-0.08	1.0-3.0	0.1-0.1
191: Gujarral-----	0-1	8-18	1.45-1.60	4.00-14.00	0.12-0.15	1.0-3.0	0.8-1.2
	1-4	8-18	1.45-1.60	14.00-42.00	0.12-0.15	1.0-3.0	0.5-1.0
	4-16	8-18	1.45-1.60	14.00-42.00	0.11-0.14	1.0-3.0	0.4-0.6
	16-29	8-18	1.45-1.60	4.00-14.00	0.08-0.12	1.0-3.0	0.3-0.5
	29-40	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.2-0.4
	40-46	8-18	1.45-1.60	14.00-42.00	0.08-0.11	1.0-3.0	0.1-0.3
	46-51	8-18	1.45-1.60	4.00-14.00	0.05-0.08	1.0-3.0	0.1-0.2
	51-60	8-18	1.45-1.60	4.00-14.00	0.05-0.08	1.0-3.0	0.1-0.1
192: Gujarral-----	0-1	8-18	1.45-1.60	4.00-14.00	0.12-0.15	1.0-3.0	0.8-1.2
	1-4	8-18	1.45-1.60	14.00-42.00	0.12-0.15	1.0-3.0	0.5-1.0
	4-16	8-18	1.45-1.60	14.00-42.00	0.11-0.14	1.0-3.0	0.4-0.6
	16-29	8-18	1.45-1.60	4.00-14.00	0.08-0.12	1.0-3.0	0.3-0.5
	29-40	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.2-0.4
	40-46	8-18	1.45-1.60	14.00-42.00	0.08-0.11	1.0-3.0	0.1-0.3
	46-51	8-18	1.45-1.60	4.00-14.00	0.05-0.08	1.0-3.0	0.1-0.2
	51-60	8-18	1.45-1.60	4.00-14.00	0.05-0.08	1.0-3.0	0.1-0.1
Klipstein-----	0-5	5-18	1.50-1.60	14.00-142.00	0.03-0.11	1.0-3.0	0.1-0.5
	5-23	5-18	1.50-1.60	14.00-142.00	0.02-0.09	1.0-3.0	0.1-0.5
	23-30	5-18	1.50-1.60	14.00-142.00	0.02-0.09	1.0-3.0	0.1-0.5
	30-36	5-18	1.50-1.60	14.00-142.00	0.09-0.14	1.0-3.0	0.1-0.2
	36-60	5-18	1.50-1.60	14.00-142.00	0.01-0.08	1.0-3.0	0.1-0.2
193: Gujarral-----	0-1	8-18	1.45-1.60	4.00-14.00	0.09-0.13	1.0-3.0	0.8-1.2
	1-4	8-18	1.45-1.60	14.00-42.00	0.09-0.13	1.0-3.0	0.5-1.0
	4-16	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.4-0.6
	16-29	8-18	1.45-1.60	4.00-14.00	0.08-0.12	1.0-3.0	0.3-0.5
	29-40	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.2-0.4
	40-46	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.1-0.3
	46-51	8-18	1.45-1.60	4.00-14.00	0.03-0.05	1.0-3.0	0.1-0.2
	51-60	8-18	1.45-1.60	4.00-14.00	0.03-0.05	1.0-3.0	0.1-0.1

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
195: Guijarral, extremely gravelly substratum-----	0-1	8-18	1.45-1.60	4.00-14.00	0.09-0.13	1.0-3.0	0.8-1.2
	1-4	8-18	1.45-1.60	14.00-42.00	0.09-0.13	1.0-3.0	0.5-1.0
	4-16	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.4-0.6
	16-29	8-18	1.45-1.60	4.00-14.00	0.08-0.12	1.0-3.0	0.3-0.5
	29-40	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.2-0.4
	40-46	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.1-0.3
	46-51	8-18	1.45-1.60	4.00-14.00	0.03-0.05	1.0-3.0	0.1-0.2
	51-60	8-18	1.45-1.60	4.00-14.00	0.03-0.05	1.0-3.0	0.1-0.1
Guijarral-----	0-3	8-18	1.45-1.60	4.00-14.00	0.09-0.13	1.0-3.0	0.8-1.2
	3-10	8-18	1.45-1.60	14.00-42.00	0.09-0.13	1.0-3.0	0.5-1.0
	10-17	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.4-0.6
	17-23	8-18	1.45-1.60	4.00-14.00	0.08-0.12	1.0-3.0	0.3-0.5
	23-41	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.2-0.4
	41-50	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.1-0.3
	50-65	8-18	1.45-1.60	4.00-14.00	0.08-0.11	1.0-3.0	0.1-0.2
	65-70	8-18	1.45-1.60	4.00-14.00	0.08-0.11	1.0-3.0	0.1-0.1
197: Klipstein-----	0-5	5-18	1.50-1.60	14.00-142.00	0.03-0.11	1.0-3.0	0.1-0.5
	5-23	5-18	1.50-1.60	14.00-142.00	0.02-0.09	1.0-3.0	0.1-0.5
	23-30	5-18	1.50-1.60	14.00-142.00	0.02-0.09	1.0-3.0	0.1-0.5
	30-36	5-18	1.50-1.60	14.00-142.00	0.09-0.14	1.0-3.0	0.1-0.2
	36-60	5-18	1.50-1.60	14.00-142.00	0.01-0.08	1.0-3.0	0.1-0.2
Guijarral-----	0-1	8-18	1.45-1.60	4.00-14.00	0.09-0.13	1.0-3.0	0.8-1.2
	1-4	8-18	1.45-1.60	14.00-42.00	0.09-0.13	1.0-3.0	0.5-1.0
	4-16	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.4-0.6
	16-29	8-18	1.45-1.60	4.00-14.00	0.08-0.12	1.0-3.0	0.3-0.5
	29-40	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.2-0.4
	40-46	8-18	1.45-1.60	14.00-42.00	0.08-0.12	1.0-3.0	0.1-0.3
	46-51	8-18	1.45-1.60	4.00-14.00	0.03-0.05	1.0-3.0	0.1-0.2
	51-60	8-18	1.45-1.60	4.00-14.00	0.03-0.05	1.0-3.0	0.1-0.1
200: Hesperia-----	0-2	3-18	1.50-1.65	14.00-42.00	0.10-0.18	1.0-3.0	0.3-0.5
	2-6	3-18	1.50-1.65	14.00-42.00	0.10-0.18	1.0-3.0	0.2-0.4
	6-13	3-18	1.50-1.65	14.00-42.00	0.10-0.18	1.0-3.0	0.1-0.3
	13-24	3-18	1.50-1.65	14.00-42.00	0.09-0.17	1.0-3.0	0.1-0.2
	24-33	3-18	1.50-1.65	14.00-42.00	0.09-0.17	1.0-3.0	0.0-0.1
	33-60	3-18	1.50-1.65	14.00-42.00	0.08-0.16	1.0-3.0	0.0-0.1
201: Hesperia-----	0-18	8-18	1.50-1.60	14.00-42.00	0.09-0.13	0.0-2.9	0.2-0.5
	18-34	8-18	1.50-1.60	14.00-42.00	0.09-0.13	0.0-2.9	0.1-0.4
	34-70	8-18	1.50-1.60	14.00-42.00	0.08-0.11	0.0-2.9	0.1-0.2
210: Kimberlina-----	0-9	6-18	1.50-1.60	14.00-42.00	0.10-0.13	0.0-2.9	0.5-1.0
	9-45	10-18	1.50-1.60	14.00-42.00	0.10-0.13	0.0-2.9	0.1-0.2
	45-71	10-25	1.45-1.55	4.00-14.00	0.13-0.17	3.0-5.9	0.1-0.1
211: Kimberlina-----	0-10	6-18	1.50-1.60	4.00-14.00	0.08-0.18	1.0-3.0	0.5-1.0
	10-19	6-18	1.50-1.60	4.00-14.00	0.07-0.17	1.0-3.0	0.3-0.7
	19-28	6-18	1.50-1.60	14.00-42.00	0.07-0.17	1.0-3.0	0.2-0.4
	28-45	6-18	1.50-1.60	14.00-42.00	0.07-0.16	1.0-3.0	0.1-0.3
	45-60	6-18	1.50-1.60	14.00-42.00	0.07-0.16	1.0-3.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
212: Kimberlina, saline-sodic-----	0-9	6-18	1.50-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.5-1.0
	9-45	10-18	1.50-1.60	1.40-4.00	0.10-0.14	0.0-2.9	0.1-0.3
	45-71	10-25	1.45-1.55	4.00-14.00	0.13-0.17	3.0-5.9	0.1-0.1
214: Kimberlina-----	0-10	6-18	1.50-1.60	4.00-14.00	0.10-0.18	1.0-3.0	0.5-1.0
	10-19	6-18	1.50-1.60	4.00-14.00	0.07-0.14	1.0-3.0	0.3-0.7
	19-28	6-18	1.50-1.60	14.00-42.00	0.07-0.14	1.0-3.0	0.2-0.4
	28-45	6-18	1.50-1.60	14.00-42.00	0.07-0.13	1.0-3.0	0.1-0.3
	45-60	6-18	1.50-1.60	14.00-42.00	0.07-0.13	1.0-3.0	0.1-0.2
215: Kimberlina-----	0-25	6-18	1.50-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.5-1.0
	25-60	6-18	1.50-1.60	14.00-42.00	0.09-0.12	0.0-2.9	0.1-0.3
216: Kimberlina, occasionally flooded-----	0-10	6-18	1.50-1.60	4.00-14.00	0.10-0.18	1.0-3.0	0.5-1.0
	10-19	6-18	1.50-1.60	4.00-14.00	0.07-0.14	1.0-3.0	0.3-0.7
	19-28	6-18	1.50-1.60	14.00-42.00	0.07-0.14	1.0-3.0	0.2-0.4
	28-45	6-18	1.50-1.60	14.00-42.00	0.07-0.13	1.0-3.0	0.1-0.3
	45-60	6-18	1.50-1.60	14.00-42.00	0.07-0.13	1.0-3.0	0.1-0.2
Granoso, occasionally flooded-----	0-10	4-12	1.50-1.70	14.00-42.00	0.09-0.15	1.0-3.0	0.5-0.9
	10-20	4-12	1.50-1.70	42.00-141.00	0.05-0.14	1.0-3.0	0.2-0.4
	20-36	4-12	1.50-1.70	141.00-282.00	0.02-0.10	1.0-3.0	0.1-0.3
	36-62	4-12	1.50-1.70	141.00-282.00	0.03-0.10	1.0-3.0	0.1-0.2
217: Kimberlina-----	0-10	6-18	1.50-1.60	4.00-14.00	0.10-0.18	1.0-3.0	0.5-1.0
	10-19	6-18	1.50-1.60	4.00-14.00	0.07-0.14	1.0-3.0	0.3-0.7
	19-28	6-18	1.50-1.60	14.00-42.00	0.07-0.14	1.0-3.0	0.2-0.4
	28-45	6-18	1.50-1.60	14.00-42.00	0.07-0.13	1.0-3.0	0.1-0.3
	45-60	6-18	1.50-1.60	14.00-42.00	0.07-0.13	1.0-3.0	0.1-0.2
Urban land.							
219: Xerorthents-----	0-12	15-20	1.45-1.55	4.00-14.00	0.06-0.14	0.0-2.9	0.5-1.0
	12-19	10-20	1.45-1.60	4.00-42.00	0.04-0.14	0.0-2.9	0.1-0.2
	19-26	10-20	1.45-1.60	4.00-42.00	0.03-0.11	0.0-2.9	0.1-0.2
	26-36	---	---	0.00-0.10	---	---	---
Badlands.							
220: Lokern, drained-----	0-11	35-55	1.25-1.50	0.40-1.40	0.11-0.13	9.0-12.0	1.0-3.0
	11-21	35-55	1.25-1.50	0.40-1.40	0.11-0.13	6.0-9.0	1.0-2.5
	21-28	35-55	1.25-1.50	0.40-1.40	0.09-0.11	6.0-9.0	0.8-1.2
	28-33	35-55	1.25-1.50	0.40-1.40	0.09-0.11	6.0-9.0	0.5-1.0
	33-42	35-55	1.25-1.50	0.40-1.40	0.08-0.10	6.0-9.0	0.2-0.8
	42-53	35-55	1.25-1.50	0.40-1.40	0.08-0.10	6.0-9.0	0.1-0.5
	53-60	35-55	1.25-1.50	0.40-1.40	0.08-0.10	6.0-9.0	0.8-1.8
	60-67	35-55	1.25-1.50	0.40-1.40	0.08-0.10	6.0-9.0	0.1-0.3

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
221: Lokern, partially drained----	0-11	35-55	1.25-1.50	0.40-1.40	0.11-0.13	9.0-12.0	1.0-3.0
	11-21	35-55	1.25-1.50	0.40-1.40	0.11-0.13	6.0-9.0	1.0-2.5
	21-28	35-55	1.25-1.50	0.40-1.40	0.09-0.11	6.0-9.0	0.8-1.2
	28-33	35-55	1.25-1.50	0.40-1.40	0.09-0.11	6.0-9.0	0.5-1.0
	33-42	35-55	1.25-1.50	0.40-1.40	0.08-0.10	6.0-9.0	0.2-0.8
	42-53	35-55	1.25-1.50	0.40-1.40	0.08-0.10	6.0-9.0	0.1-0.5
	53-60	35-55	1.25-1.50	0.40-1.40	0.08-0.10	6.0-9.0	0.8-1.8
	60-67	35-55	1.25-1.50	0.40-1.40	0.08-0.10	6.0-9.0	0.1-0.3
230: Milagro-----	0-8	5-18	1.50-1.65	14.00-42.00	0.10-0.15	1.0-3.0	0.3-1.0
	8-14	5-18	1.50-1.65	14.00-42.00	0.10-0.15	1.0-3.0	0.3-1.0
	14-19	5-18	1.50-1.65	14.00-42.00	0.12-0.17	1.0-3.0	0.2-0.6
	19-27	5-28	1.50-1.65	42.00-141.00	0.09-0.11	1.0-3.0	0.1-0.3
	27-32	5-28	1.45-1.60	4.00-14.00	0.09-0.22	1.0-3.0	0.1-0.6
	32-51	5-28	1.50-1.60	14.00-42.00	0.11-0.16	1.0-3.0	0.0-0.1
	51-60	5-28	1.50-1.60	14.00-42.00	0.11-0.16	1.0-3.0	0.0-0.1
231: Milagro-----	0-8	5-18	1.50-1.65	14.00-42.00	0.16-0.18	1.0-3.0	0.3-1.0
	8-14	5-18	1.50-1.65	14.00-42.00	0.16-0.18	1.0-3.0	0.3-1.0
	14-19	5-18	1.50-1.65	14.00-42.00	0.15-0.17	1.0-3.0	0.2-0.6
	19-27	5-18	1.50-1.65	42.00-141.00	0.09-0.11	1.0-3.0	0.1-0.3
	27-32	5-20	1.45-1.60	4.00-14.00	0.20-0.22	1.0-3.0	0.1-0.6
	32-51	5-18	1.50-1.60	14.00-42.00	0.11-0.13	1.0-3.0	0.0-0.1
	51-60	5-18	1.50-1.60	14.00-42.00	0.11-0.13	1.0-3.0	0.0-0.1
240: Millox, partially drained----	0-5	30-50	1.35-1.45	0.40-1.40	0.08-0.13	6.0-9.0	1.0-1.5
	5-19	30-50	1.35-1.45	0.40-1.40	0.06-0.12	6.0-9.0	0.4-1.0
	19-35	30-50	1.35-1.45	0.40-1.40	0.06-0.12	6.0-9.0	0.4-1.0
	35-53	26-50	1.35-1.45	0.04-14.00	0.06-0.15	6.0-9.0	0.2-0.6
	53-60	15-35	1.40-1.50	1.40-14.00	0.10-0.13	3.0-6.0	0.1-0.4
	60-65	15-25	1.50-1.70	4.00-14.00	0.08-0.13	1.0-3.0	0.1-0.2
241: Millox, partially drained, nonsaline-----	0-5	30-50	1.35-1.45	0.40-1.40	0.08-0.13	6.0-9.0	1.0-1.5
	5-19	30-50	1.35-1.45	0.40-1.40	0.06-0.12	6.0-9.0	0.4-1.0
	19-35	30-50	1.35-1.45	0.40-1.40	0.06-0.12	6.0-9.0	0.4-1.0
	35-53	26-50	1.35-1.45	0.04-14.00	0.06-0.13	6.0-9.0	0.2-0.6
	53-60	15-35	1.40-1.50	1.40-14.00	0.10-0.13	3.0-6.0	0.1-0.4
	60-65	15-25	1.50-1.70	4.00-14.00	0.08-0.13	1.0-3.0	0.1-0.2
242: Millox, partially drained----	0-5	30-50	1.35-1.45	0.40-1.40	0.08-0.13	6.0-9.0	1.0-1.5
	5-19	30-50	1.35-1.45	0.40-1.40	0.06-0.12	6.0-9.0	0.4-1.0
	19-35	30-50	1.35-1.45	0.40-1.40	0.06-0.12	6.0-9.0	0.4-1.0
	35-53	26-50	1.35-1.45	0.04-14.00	0.06-0.15	6.0-9.0	0.2-0.6
	53-60	15-35	1.40-1.50	1.40-14.00	0.10-0.13	3.0-6.0	0.1-0.4
	60-65	15-25	1.50-1.70	4.00-14.00	0.08-0.13	1.0-3.0	0.1-0.2
Tennco-----	0-1	10-15	1.55-1.65	4.00-14.00	0.11-0.15	1.0-3.0	0.8-1.5
	1-5	4-10	1.50-1.60	14.00-42.00	0.09-0.13	0.0-2.0	0.1-0.2
	5-13	14-18	1.50-1.60	4.00-14.00	0.09-0.13	1.0-3.0	0.1-0.2
	13-18	5-10	1.50-1.60	4.00-14.00	0.12-0.15	0.0-2.0	0.1-0.2
	18-25	5-14	1.45-1.55	4.00-14.00	0.12-0.15	0.0-2.0	0.1-0.2
	25-45	10-18	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.1-0.2
	45-60	10-18	1.45-1.55	4.00-14.00	0.12-0.15	1.0-3.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
243:							
Miltox, partially drained----	0-5	30-50	1.35-1.45	0.40-1.40	0.08-0.13	6.0-9.0	1.0-1.5
	5-19	30-50	1.35-1.45	0.40-1.40	0.06-0.12	6.0-9.0	0.4-1.0
	19-35	30-50	1.35-1.45	0.40-1.40	0.06-0.12	6.0-9.0	0.4-1.0
	35-53	26-50	1.35-1.45	0.04-14.00	0.06-0.13	6.0-9.0	0.2-0.6
	53-60	15-35	1.40-1.50	1.40-14.00	0.10-0.13	3.0-6.0	0.1-0.4
	60-65	15-25	1.50-1.70	4.00-14.00	0.08-0.13	1.0-3.0	0.1-0.2
Zalvidea, partially drained--	0-8	8-35	1.45-1.60	1.40-14.00	0.12-0.20	0.0-3.0	0.5-1.0
	8-23	8-18	1.50-1.60	1.40-14.00	0.11-0.17	0.0-3.0	0.3-0.5
	23-27	8-18	1.50-1.60	1.40-14.00	0.11-0.17	0.0-3.0	0.2-0.4
	27-37	8-18	1.50-1.60	1.40-14.00	0.11-0.17	0.0-3.0	0.1-0.3
	37-52	8-18	1.50-1.60	1.40-14.00	0.10-0.16	0.0-3.0	0.1-0.2
	52-65	4-30	1.45-1.70	1.40-282.00	0.05-0.20	0.0-3.0	0.1-0.1
	65-69	4-30	1.45-1.70	1.40-141.00	0.05-0.20	3.0-6.0	0.1-0.1
246:							
Whitewolf-----	0-11	5-10	1.55-1.60	14.00-42.00	0.08-0.11	0.0-2.9	0.5-1.0
	11-65	0-7	1.55-1.70	42.00-141.00	0.05-0.08	0.0-2.9	0.0-0.0
250:							
Oldriver-----	0-11	18-27	1.45-1.55	4.00-14.11	0.19-0.22	3.0-6.0	1.0-4.0
	11-16	6-50	1.40-1.65	14.00-42.00	0.09-0.19	1.0-3.0	0.8-1.5
	16-22	6-50	1.40-1.65	4.00-14.00	0.06-0.13	1.0-3.0	0.5-1.0
	22-30	6-50	1.40-1.65	4.00-14.00	0.06-0.13	3.0-6.0	0.3-0.5
	30-39	6-50	1.40-1.65	4.00-42.00	0.06-0.13	1.0-3.0	0.2-0.6
	39-49	6-50	1.40-1.65	14.00-141.00	0.06-0.13	1.0-3.0	0.1-0.3
	49-63	6-50	1.40-1.65	0.04-42.00	0.08-0.19	6.0-9.0	0.1-0.2
251:							
Oldriver, partially drained, sodic-----	0-11	18-27	1.45-1.55	4.00-14.11	0.19-0.22	3.0-6.0	1.0-4.0
	11-16	6-50	1.40-1.65	14.00-42.00	0.09-0.19	1.0-3.0	0.8-1.5
	16-22	6-50	1.40-1.65	4.00-14.00	0.06-0.13	1.0-3.0	0.5-1.0
	22-30	6-50	1.40-1.65	4.00-14.00	0.06-0.13	3.0-6.0	0.3-0.5
	30-39	6-50	1.40-1.65	4.00-42.00	0.06-0.13	1.0-3.0	0.2-0.6
	39-49	6-50	1.40-1.65	14.00-141.00	0.06-0.13	1.0-3.0	0.1-0.3
	49-63	6-50	1.40-1.65	0.04-42.00	0.08-0.19	6.0-9.0	0.1-0.2
260:							
Panoche-----	0-9	18-27	1.45-1.55	4.00-14.00	0.18-0.22	1.0-3.0	0.6-1.0
	9-23	18-35	1.40-1.55	1.40-14.00	0.14-0.20	3.0-6.0	0.5-0.8
	23-39	18-35	1.40-1.55	1.40-14.00	0.14-0.20	3.0-6.0	0.1-0.3
	39-60	18-35	1.40-1.55	1.40-14.00	0.13-0.20	2.0-4.0	0.1-0.2
270:							
Pits. Dumps.							
280:							
Premier-----	0-16	5-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	0.5-1.0
	16-60	5-18	1.50-1.60	14.00-42.00	0.11-0.19	1.0-3.0	0.1-0.3
281:							
Premier-----	0-16	5-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	0.5-1.0
	16-60	5-18	1.50-1.60	14.00-42.00	0.11-0.19	1.0-3.0	0.1-0.3
290:							
Riverwash.							

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
300: Tennco-----	0-1	10-15	1.55-1.65	4.00-14.00	0.11-0.15	1.0-3.0	0.8-1.5
	1-5	4-10	1.50-1.60	14.00-42.00	0.09-0.13	0.0-2.0	0.1-0.2
	5-13	14-18	1.50-1.60	4.00-14.00	0.09-0.13	1.0-3.0	0.1-0.2
	13-18	5-10	1.50-1.60	4.00-14.00	0.12-0.15	0.0-2.0	0.1-0.2
	18-25	5-14	1.45-1.55	4.00-14.00	0.12-0.15	0.0-2.0	0.1-0.2
	25-45	10-18	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.1-0.2
	45-60	10-18	1.45-1.55	4.00-14.00	0.12-0.15	1.0-3.0	0.1-0.2
310: Vineland, drained-----	0-6	2-6	1.60-1.70	42.00-141.00	0.10-0.12	0.0-3.0	0.5-0.8
	6-14	2-6	1.60-1.70	42.00-282.00	0.07-0.12	0.0-3.0	0.3-0.6
	14-22	2-6	1.60-1.70	141.00-282.00	0.03-0.08	0.0-3.0	0.1-0.5
	22-26	2-6	1.60-1.70	42.00-141.00	0.06-0.11	0.0-3.0	0.1-0.5
	26-38	2-10	1.45-1.70	14.00-282.00	0.06-0.19	0.0-3.0	0.2-0.5
	38-43	5-18	1.45-1.70	4.00-141.00	0.05-0.13	0.0-3.0	0.3-0.7
	43-54	3-10	1.45-1.70	4.00-282.00	0.05-0.22	0.0-3.0	0.1-0.5
	54-58	5-18	1.45-1.70	4.00-141.00	0.01-0.19	0.0-3.0	0.1-0.8
	58-64	3-15	1.45-1.70	14.00-141.00	0.08-0.13	0.0-3.0	0.1-0.5
312: Vineland, drained-----	0-6	2-6	1.60-1.70	42.00-141.00	0.10-0.12	0.0-3.0	0.5-0.8
	6-14	2-6	1.60-1.70	42.00-282.00	0.07-0.12	0.0-3.0	0.3-0.6
	14-22	2-6	1.60-1.70	141.00-282.00	0.03-0.08	0.0-3.0	0.1-0.5
	22-26	2-6	1.60-1.70	42.00-141.00	0.06-0.11	0.0-3.0	0.1-0.5
	26-38	2-10	1.45-1.70	14.00-282.00	0.06-0.19	0.0-3.0	0.2-0.5
	38-43	5-18	1.45-1.70	4.00-141.00	0.05-0.13	0.0-3.0	0.3-0.7
	43-54	3-10	1.45-1.70	4.00-282.00	0.05-0.22	0.0-3.0	0.1-0.5
	54-58	5-18	1.45-1.70	4.00-141.00	0.01-0.19	0.0-3.0	0.1-0.8
	58-64	3-15	1.45-1.70	14.00-141.00	0.08-0.13	0.0-3.0	0.1-0.5
Bakersfield, drained-----	0-3	5-18	1.50-1.60	4.00-14.00	0.16-0.18	0.6-2.2	1.0-3.0
	3-10	5-18	1.50-1.60	4.00-14.00	0.15-0.17	0.6-2.2	1.0-2.0
	10-16	5-18	1.50-1.60	4.00-14.00	0.11-0.13	0.6-2.2	0.5-2.0
	16-29	3-18	1.50-1.60	14.00-42.00	0.11-0.13	0.4-2.2	0.3-0.6
	29-45	3-18	1.50-1.60	4.00-14.00	0.19-0.22	0.4-2.6	0.1-0.5
	45-51	12-25	1.45-1.55	14.00-42.00	0.17-0.19	1.8-3.4	0.2-0.8
	51-58	18-27	1.45-1.55	4.00-14.00	0.19-0.22	2.7-3.9	0.2-0.8
	58-66	2-10	1.60-1.70	141.00-282.00	0.05-0.07	0.3-0.7	0.1-0.2
320: Wasco-----	0-7	8-18	1.50-1.60	4.00-42.00	0.12-0.15	1.0-3.0	0.3-0.5
	7-17	8-18	1.50-1.60	14.00-42.00	0.11-0.17	1.0-3.0	0.2-0.4
	17-25	8-18	1.50-1.60	14.00-42.00	0.11-0.14	1.0-3.0	0.1-0.3
	25-31	8-18	1.50-1.60	14.00-42.00	0.11-0.14	1.0-3.0	0.1-0.2
	31-64	8-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	0.0-0.1
330: Cuyama-----	0-5	8-18	1.45-1.60	4.00-14.00	0.10-0.15	0.0-3.0	0.1-0.5
	5-13	8-18	1.45-1.55	4.00-14.00	0.15-0.22	0.0-3.0	0.1-0.5
	13-28	10-25	1.45-1.60	4.00-14.00	0.09-0.19	0.0-3.0	0.1-0.5
	28-42	18-30	1.45-1.60	4.00-14.00	0.07-0.14	3.0-6.0	0.1-0.4
	42-58	2-18	1.45-1.60	4.00-282.00	0.01-0.07	0.0-3.0	0.1-0.2
	58-75	2-18	1.45-1.60	14.00-282.00	0.00-0.07	0.0-2.0	0.0-0.1
331: Cuyama-----	0-5	8-18	1.45-1.60	4.00-14.00	0.10-0.15	0.0-3.0	0.1-0.5
	5-13	8-18	1.45-1.55	4.00-14.00	0.15-0.22	0.0-3.0	0.1-0.5
	13-28	10-25	1.45-1.60	4.00-14.00	0.09-0.19	0.0-3.0	0.1-0.5
	28-42	18-30	1.45-1.60	4.00-14.00	0.07-0.14	3.0-6.0	0.1-0.4
	42-58	2-18	1.45-1.60	4.00-282.00	0.01-0.07	0.0-3.0	0.1-0.2
	58-75	2-18	1.45-1.60	14.00-282.00	0.00-0.07	0.0-2.0	0.0-0.1

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
332: Cuyama-----	0-5	8-18	1.45-1.60	4.00-14.00	0.10-0.15	0.0-3.0	0.1-0.5
	5-13	8-18	1.45-1.55	4.00-14.00	0.15-0.22	0.0-3.0	0.1-0.5
	13-28	10-25	1.45-1.60	4.00-14.00	0.09-0.19	0.0-3.0	0.1-0.5
	28-42	18-30	1.45-1.60	4.00-14.00	0.07-0.14	3.0-6.0	0.1-0.4
	42-58	2-18	1.45-1.60	4.00-282.00	0.01-0.07	0.0-3.0	0.1-0.2
	58-75	2-18	1.45-1.60	14.00-282.00	0.00-0.07	0.0-2.0	0.0-0.1
340: Weedpatch-----	0-8	20-35	1.40-1.60	1.40-14.00	0.17-0.23	3.0-6.0	0.5-1.5
	8-18	20-35	1.40-1.60	1.40-14.00	0.15-0.20	3.0-6.0	0.1-0.5
	18-24	20-35	1.40-1.60	1.40-14.00	0.15-0.20	3.0-6.0	0.1-0.3
	24-42	20-35	1.40-1.60	1.40-14.00	0.15-0.20	3.0-6.0	0.1-0.3
	42-47	20-35	1.40-1.60	1.40-14.00	0.14-0.20	3.0-6.0	0.0-0.2
	47-59	20-35	1.40-1.60	1.40-14.00	0.14-0.20	3.0-6.0	0.0-0.1
	59-64	20-35	1.40-1.60	1.40-14.00	0.14-0.19	3.0-6.0	0.0-0.1
350: Posochanet, saline-sodic----	0-1	15-27	1.40-1.50	4.00-14.00	0.14-0.17	2.0-4.0	2.0-3.0
	1-6	15-35	1.40-1.50	1.40-14.00	0.08-0.17	3.0-6.0	0.5-1.2
	6-16	15-50	1.40-1.50	0.40-14.00	0.08-0.15	3.0-6.0	0.2-1.2
	16-26	15-50	1.40-1.50	0.40-14.00	0.08-0.15	6.0-9.0	0.2-0.8
	26-41	15-50	1.40-1.50	0.40-14.00	0.07-0.15	3.0-6.0	0.2-0.6
	41-54	10-50	1.40-1.50	0.40-14.00	0.07-0.14	0.0-3.0	0.1-0.2
	54-58	10-50	1.40-1.50	0.40-14.00	0.07-0.15	0.0-3.0	0.1-0.2
	58-62	10-50	1.40-1.50	0.40-14.00	0.07-0.15	0.0-3.0	0.1-0.2
351: Posochanet, saline-sodic----	0-1	15-35	1.40-1.50	4.00-14.00	0.14-0.17	2.0-4.0	2.0-3.0
	1-6	15-35	1.40-1.50	1.40-14.00	0.08-0.17	3.0-6.0	0.5-1.2
	6-16	15-50	1.40-1.50	0.40-14.00	0.08-0.15	3.0-6.0	0.2-1.2
	16-26	15-50	1.40-1.50	0.40-14.00	0.08-0.15	6.0-9.0	0.2-0.8
	26-41	15-50	1.40-1.50	0.40-14.00	0.07-0.15	3.0-6.0	0.2-0.6
	41-54	10-50	1.40-1.50	0.40-14.00	0.07-0.14	0.0-3.0	0.1-0.2
	54-58	10-50	1.40-1.50	0.40-14.00	0.07-0.15	0.0-3.0	0.1-0.2
	58-62	10-50	1.40-1.50	0.40-14.00	0.07-0.15	0.0-3.0	0.1-0.2
352: Posochanet-----	0-1	15-27	1.40-1.50	4.00-14.00	0.14-0.17	2.0-4.0	2.0-3.0
	1-6	15-35	1.40-1.50	1.40-14.00	0.08-0.17	3.0-6.0	0.5-1.2
	6-16	15-50	1.40-1.50	0.40-14.00	0.08-0.15	3.0-6.0	0.2-1.2
	16-26	15-50	1.40-1.50	0.40-14.00	0.08-0.15	6.0-9.0	0.2-0.8
	26-41	15-50	1.40-1.50	0.40-14.00	0.07-0.15	3.0-6.0	0.2-0.6
	41-54	10-50	1.40-1.50	0.40-14.00	0.07-0.14	0.0-3.0	0.1-0.2
	54-58	10-50	1.40-1.50	0.40-14.00	0.07-0.15	0.0-3.0	0.1-0.2
	58-62	10-50	1.40-1.50	0.40-14.00	0.07-0.15	0.0-3.0	0.1-0.2
Posochanet, partially reclaimed-----	0-1	15-27	1.40-1.50	4.00-14.00	0.14-0.17	2.0-4.0	2.0-3.0
	1-6	15-35	1.40-1.50	1.40-14.00	0.08-0.17	3.0-6.0	0.5-1.2
	6-16	15-50	1.40-1.50	0.40-14.00	0.08-0.15	3.0-6.0	0.2-1.0
	16-26	15-50	1.40-1.50	0.40-14.00	0.08-0.15	6.0-9.0	0.2-0.8
	26-41	15-50	1.40-1.50	0.40-14.00	0.07-0.15	3.0-6.0	0.2-0.4
	41-54	10-50	1.40-1.50	0.40-14.00	0.07-0.14	0.0-3.0	0.1-0.2
	54-58	10-50	1.40-1.50	0.40-14.00	0.07-0.15	0.0-3.0	0.1-0.2
	58-62	10-50	1.40-1.50	0.40-14.00	0.07-0.15	0.0-3.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
360: Wheelridge-----	0-7	2-8	1.60-1.70	43.00-141.00	0.06-0.11	0.0-2.0	0.5-1.2
	7-13	2-8	1.60-1.70	43.00-141.00	0.06-0.10	0.0-2.0	0.5-1.0
	13-27	2-8	1.60-1.70	43.00-141.00	0.06-0.09	0.0-2.0	0.0-0.5
	27-44	2-8	1.60-1.70	43.00-141.00	0.05-0.09	0.0-2.0	0.0-0.5
	44-65	1-5	1.60-1.70	141.00-282.00	0.01-0.02	0.0-2.0	0.0-0.5
370: Whitewolf-----	0-11	5-10	1.55-1.60	14.00-42.00	0.08-0.11	0.0-2.9	0.5-1.0
	11-65	0-7	1.55-1.70	42.00-141.00	0.05-0.08	0.0-2.9	0.0-0.0
371: Whitewolf-----	0-11	5-10	1.55-1.60	14.00-42.00	0.08-0.11	0.0-2.9	0.5-1.0
	11-65	0-7	1.55-1.70	42.00-141.00	0.05-0.08	0.0-2.9	0.0-0.0
380: Zalvidea, partially drained--	0-8	8-35	1.45-1.60	1.40-14.00	0.12-0.20	0.0-3.0	0.5-1.0
	8-23	8-18	1.50-1.60	1.40-14.00	0.11-0.17	0.0-3.0	0.3-0.5
	23-27	8-18	1.50-1.60	1.40-14.00	0.11-0.17	0.0-3.0	0.2-0.4
	27-37	8-18	1.50-1.60	1.40-14.00	0.11-0.17	0.0-3.0	0.1-0.3
	37-52	8-18	1.50-1.60	1.40-14.00	0.10-0.16	0.0-3.0	0.1-0.2
	52-65	4-30	1.45-1.70	1.40-282.00	0.05-0.20	0.0-3.0	0.1-0.1
	65-69	4-30	1.45-1.70	1.40-141.00	0.05-0.20	3.0-6.0	0.1-0.1
381: Zalvidea, partially drained--	0-8	8-35	1.45-1.60	1.40-14.00	0.12-0.20	0.0-3.0	0.5-1.0
	8-23	8-18	1.50-1.60	1.40-14.00	0.11-0.17	0.0-3.0	0.3-0.5
	23-27	8-18	1.50-1.60	1.40-14.00	0.11-0.17	0.0-3.0	0.2-0.4
	27-37	8-18	1.50-1.60	1.40-14.00	0.11-0.17	0.0-3.0	0.1-0.3
	37-52	8-18	1.50-1.60	1.40-14.00	0.10-0.16	0.0-3.0	0.1-0.2
	52-65	4-30	1.45-1.70	1.40-282.00	0.05-0.20	0.0-3.0	0.1-0.1
	65-69	4-30	1.45-1.70	1.40-141.00	0.05-0.20	3.0-6.0	0.1-0.1
389: Xerofluvents-----	0-4	8-18	1.55-1.65	4.00-14.00	0.08-0.12	0.0-2.0	0.7-1.5
	4-19	2-18	1.55-1.65	42.00-282.00	0.02-0.10	0.0-2.0	0.6-0.9
	19-31	2-18	1.55-1.65	42.00-282.00	0.04-0.11	0.0-2.0	0.1-0.8
	31-40	2-18	1.55-1.65	42.00-282.00	0.02-0.09	0.0-2.0	0.1-0.9
	40-53	2-18	1.55-1.65	42.00-282.00	0.03-0.10	0.0-2.0	0.1-0.5
	53-62	2-18	1.55-1.65	14.00-42.00	0.03-0.10	0.0-2.0	0.1-0.6
Haploxerepts-----	0-7	8-34	1.45-1.65	1.40-42.00	0.08-0.16	1.0-3.0	0.8-1.2
	7-20	8-34	1.45-1.65	1.40-14.00	0.07-0.14	1.0-3.0	0.5-0.7
	20-41	8-34	1.45-1.65	1.40-14.00	0.07-0.14	1.0-3.0	0.1-0.3
	41-60	8-34	1.45-1.65	1.40-14.00	0.07-0.14	1.0-3.0	0.1-0.2
Riverwash.							
390: Pleito-----	0-4	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	2.0-3.0
	4-8	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.0-1.5
	8-18	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.1-1.5
	18-25	10-25	1.40-1.70	4.00-14.00	0.06-0.10	3.0-6.0	1.0-1.3
	25-32	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.3-0.7
	32-46	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.1-0.3
	46-56	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	0.1-0.3
	56-64	10-25	1.40-1.70	4.00-14.00	0.06-0.11	1.0-3.0	0.1-0.3
	64-80	10-25	1.40-1.70	4.00-42.00	0.05-0.09	1.0-3.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
391: Pleito-----	0-4	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	2.0-3.0
	4-8	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.0-1.5
	8-18	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.1-1.5
	18-25	10-25	1.40-1.70	4.00-14.00	0.06-0.10	3.0-6.0	1.0-1.3
	25-32	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.3-0.7
	32-46	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.1-0.3
	46-56	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	0.1-0.3
	56-64	10-25	1.40-1.70	4.00-14.00	0.06-0.11	1.0-3.0	0.1-0.3
	64-80	10-25	1.40-1.70	4.00-42.00	0.05-0.09	1.0-3.0	0.1-0.2
392: Pleito-----	0-4	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	2.0-3.0
	4-8	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.0-1.5
	8-18	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.1-1.5
	18-25	10-25	1.40-1.70	4.00-14.00	0.06-0.10	3.0-6.0	1.0-1.3
	25-32	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.3-0.7
	32-46	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.1-0.3
	46-56	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	0.1-0.3
	56-64	10-25	1.40-1.70	4.00-14.00	0.06-0.11	1.0-3.0	0.1-0.3
	64-80	10-25	1.40-1.70	4.00-42.00	0.05-0.09	1.0-3.0	0.1-0.2
393: Pleito-----	0-4	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	2.0-3.0
	4-8	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.0-1.5
	8-18	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.1-1.5
	18-25	10-25	1.40-1.70	4.00-14.00	0.06-0.10	3.0-6.0	1.0-1.3
	25-32	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.3-0.7
	32-46	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.1-0.3
	46-56	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	0.1-0.3
	56-64	10-25	1.40-1.70	4.00-14.00	0.06-0.11	1.0-3.0	0.1-0.3
	64-80	10-25	1.40-1.70	4.00-42.00	0.05-0.09	1.0-3.0	0.1-0.2
394: Pleito-----	0-4	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	2.0-3.0
	4-8	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.0-1.5
	8-18	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.1-1.5
	18-25	10-25	1.40-1.70	4.00-14.00	0.06-0.10	3.0-6.0	1.0-1.3
	25-32	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.3-0.7
	32-46	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.1-0.3
	46-56	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	0.1-0.3
	56-64	10-25	1.40-1.70	4.00-14.00	0.06-0.11	1.0-3.0	0.1-0.3
	64-80	10-25	1.40-1.70	4.00-42.00	0.05-0.09	1.0-3.0	0.1-0.2
Xeric Torriorthents, very gravelly-----	0-2	3-10	1.50-1.60	14.00-42.00	0.05-0.14	0.0-3.0	0.5-1.0
	2-7	3-10	1.50-1.60	14.00-42.00	0.05-0.14	0.0-3.0	0.2-0.5
	7-26	3-10	1.50-1.60	14.00-42.00	0.03-0.12	0.0-3.0	0.1-0.2
	26-36	---	---	0.00-0.01	---	---	---
395: Pleito-----	0-4	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	2.0-3.0
	4-8	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.0-1.5
	8-18	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.1-1.5
	18-25	10-25	1.40-1.70	4.00-14.00	0.06-0.10	3.0-6.0	1.0-1.3
	25-32	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.3-0.7
	32-46	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.1-0.3
	46-56	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	0.1-0.3
	56-64	10-25	1.40-1.70	4.00-14.00	0.06-0.11	1.0-3.0	0.1-0.3
	64-80	10-25	1.40-1.70	4.00-42.00	0.05-0.09	1.0-3.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
395:							
Emidio-----	0-4	15-24	1.25-1.40	4.00-14.00	0.18-0.22	1.0-3.0	2.0-5.0
	4-16	15-24	1.25-1.40	4.00-14.00	0.18-0.22	3.0-6.0	1.5-3.0
	16-32	18-35	1.30-1.45	1.40-14.00	0.14-0.19	3.0-6.0	1.0-3.0
	32-41	18-35	1.30-1.45	1.40-14.00	0.13-0.19	3.0-6.0	1.0-3.0
	41-49	12-28	1.30-1.45	4.00-14.00	0.14-0.19	3.0-6.0	1.0-2.0
	49-65	12-28	1.30-1.45	4.00-14.00	0.14-0.19	1.0-3.0	0.5-1.0
Loslobos-----	0-2	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.5-3.0
	2-14	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	0.5-1.0
	14-25	6-18	1.40-1.60	4.00-42.00	0.10-0.19	1.0-3.0	0.4-0.8
	25-41	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.3-0.7
	41-54	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.1-0.3
	54-60	6-18	1.40-1.60	4.00-42.00	0.05-0.19	1.0-3.0	0.1-0.2
396:							
Pleito-----	0-4	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	2.0-3.0
	4-8	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.0-1.5
	8-18	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.1-1.5
	18-25	10-25	1.40-1.70	4.00-14.00	0.06-0.10	3.0-6.0	1.0-1.3
	25-32	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.3-0.7
	32-46	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.1-0.3
	46-56	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	0.1-0.3
	56-64	10-25	1.40-1.70	4.00-14.00	0.06-0.11	1.0-3.0	0.1-0.3
	64-80	10-25	1.40-1.70	4.00-42.00	0.05-0.09	1.0-3.0	0.1-0.2
Loslobos-----	0-2	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.5-3.0
	2-14	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.0-2.0
	14-25	6-18	1.40-1.60	4.00-42.00	0.10-0.19	1.0-3.0	1.0-1.5
	25-41	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.3-0.7
	41-54	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.1-0.3
	54-60	6-18	1.40-1.60	4.00-42.00	0.05-0.19	1.0-3.0	0.1-0.2
398:							
Calcic Haploxerepts-----	0-4	20-35	1.40-1.50	1.40-14.00	0.14-0.23	3.0-6.0	1.0-3.0
	4-9	20-35	1.40-1.50	1.40-14.00	0.14-0.23	3.0-6.0	0.7-2.0
	9-18	20-35	1.40-1.50	1.40-14.00	0.10-0.20	3.0-6.0	0.6-0.8
	18-25	20-35	1.40-1.50	1.40-14.00	0.12-0.20	3.0-6.0	0.3-0.5
	25-37	20-35	1.40-1.50	1.40-14.00	0.12-0.20	3.0-6.0	0.1-0.3
	37-60	20-35	1.40-1.50	1.40-14.00	0.11-0.20	3.0-6.0	0.1-0.2
Calcic Pachic Argixerolls, fine-----	0-6	28-40	1.35-1.45	1.40-4.00	0.17-0.19	3.0-6.0	1.0-3.0
	6-21	28-40	1.35-1.45	1.40-4.00	0.15-0.17	4.0-6.0	1.0-1.5
	21-44	28-50	1.35-1.45	0.40-1.40	0.08-0.20	4.0-9.0	0.6-0.8
	44-56	28-50	1.35-1.45	0.40-1.40	0.06-0.20	4.0-9.0	0.2-0.4
	56-64	28-50	1.35-1.45	0.40-1.40	0.06-0.20	4.0-9.0	0.1-0.2
Xerorthents, shallow-----	0-8	20-34	1.50-1.60	4.00-14.00	0.13-0.15	0.0-2.0	0.5-0.7
	8-13	5-19	1.50-1.60	4.00-42.00	0.10-0.15	0.0-2.0	0.1-0.2
	13-23	---	---	0.10-1.00	---	---	---
400:							
Loslobos-----	0-2	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.5-3.0
	2-14	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.0-2.0
	14-25	6-18	1.40-1.60	4.00-42.00	0.10-0.19	1.0-3.0	1.0-1.5
	25-41	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.3-0.7
	41-54	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.1-0.3
	54-60	6-18	1.40-1.60	4.00-42.00	0.05-0.19	1.0-3.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
400: Xeric Torriorthents, very gravelly-----	0-2	3-10	1.50-1.60	14.00-42.00	0.05-0.14	0.0-3.0	0.5-1.0
	2-7	3-10	1.50-1.60	14.00-42.00	0.05-0.14	0.0-3.0	0.2-0.5
	7-26	3-10	1.50-1.60	14.00-42.00	0.03-0.12	0.0-3.0	0.1-0.2
	26-36	---	---	0.00-0.01	---	---	---
Badlands.							
401: Loslobos-----	0-2	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.5-3.0
	2-14	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.0-2.0
	14-25	6-18	1.40-1.60	4.00-42.00	0.10-0.19	1.0-3.0	1.0-1.5
	25-41	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.3-0.7
	41-54	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.1-0.3
	54-60	6-18	1.40-1.60	4.00-42.00	0.05-0.19	1.0-3.0	0.1-0.2
402: Loslobos-----	0-2	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.5-3.0
	2-14	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.0-2.0
	14-25	6-18	1.40-1.60	4.00-42.00	0.10-0.19	1.0-3.0	1.0-1.5
	25-41	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.3-0.7
	41-54	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.1-0.3
	54-60	6-18	1.40-1.60	4.00-42.00	0.05-0.19	1.0-3.0	0.1-0.2
Walong-----	0-3	7-18	1.50-1.60	4.00-14.00	0.04-0.15	0.0-3.0	1.0-2.0
	3-12	7-18	1.50-1.60	4.00-14.00	0.04-0.15	0.0-3.0	1.0-1.5
	12-29	7-18	1.50-1.60	4.00-14.00	0.04-0.14	0.0-3.0	0.2-0.8
	29-39	---	---	0.10-1.00	---	---	---
403: Loslobos-----	0-2	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.5-3.0
	2-14	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.0-2.0
	14-25	6-18	1.40-1.60	4.00-42.00	0.10-0.19	1.0-3.0	1.0-1.5
	25-41	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.3-0.7
	41-54	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.1-0.3
	54-60	6-18	1.40-1.60	4.00-42.00	0.05-0.19	1.0-3.0	0.1-0.2
Calleguas-----	0-7	20-35	1.40-1.55	1.40-14.00	0.15-0.22	3.0-6.0	1.0-1.5
	7-15	20-35	1.40-1.55	1.40-14.00	0.15-0.22	3.0-6.0	0.2-0.6
	15-60	---	---	0.10-1.00	---	---	---
404: Loslobos, moist-----	0-2	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.5-3.0
	2-14	6-18	1.40-1.60	4.00-42.00	0.10-0.22	1.0-3.0	1.0-2.0
	14-25	6-18	1.40-1.60	4.00-42.00	0.10-0.19	1.0-3.0	1.0-1.5
	25-41	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.3-0.7
	41-54	6-18	1.40-1.60	4.00-42.00	0.07-0.19	1.0-3.0	0.1-0.3
	54-60	6-18	1.40-1.60	4.00-42.00	0.05-0.19	1.0-3.0	0.1-0.2
430: Littlesignal-----	0-3	10-20	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	3.0-4.0
	3-11	10-20	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	0.8-1.5
	11-20	10-20	1.50-1.60	4.00-14.00	0.10-0.14	1.0-3.0	0.5-1.0
	20-25	2-10	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.8
	25-35	2-10	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.4
	35-52	2-10	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	0.1-0.3
	52-60	---	---	0.10-1.00	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
430: Cochora-----	0-2	10-18	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.5
	2-9	10-18	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.5
	9-15	3-10	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.1-0.2
	15-25	---	---	0.10-1.00	---	---	---
431: Littlesignal-----	0-3	10-20	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	3.0-4.0
	3-11	10-20	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	0.8-1.5
	11-20	10-20	1.50-1.60	4.00-14.00	0.10-0.14	1.0-3.0	0.5-1.0
	20-25	2-10	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.8
	25-35	2-10	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.4
	35-52	2-10	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	0.1-0.3
	52-60	---	---	0.10-1.00	---	---	---
Cochora-----	0-2	10-18	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.5
	2-9	10-18	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.5
	9-15	3-10	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.1-0.2
	15-25	---	---	0.10-1.00	---	---	---
432: Littlesignal-----	0-3	10-20	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	3.0-4.0
	3-11	10-20	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	0.8-1.5
	11-20	10-20	1.50-1.60	4.00-14.00	0.10-0.14	1.0-3.0	0.5-1.0
	20-25	2-10	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.8
	25-35	2-10	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.4
	35-52	2-10	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	0.1-0.3
	52-60	---	---	0.10-1.00	---	---	---
Badlands.							
Cochora-----	0-2	10-18	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.5
	2-9	10-18	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.5
	9-15	3-10	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.1-0.2
	15-25	---	---	0.10-1.00	---	---	---
440: Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
Pyxo-----	0-5	10-18	1.45-1.60	4.00-14.00	0.11-0.22	1.0-3.0	0.2-1.0
	5-12	10-18	1.45-1.60	4.00-14.00	0.16-0.22	1.0-3.0	0.1-0.5
	12-22	10-18	1.45-1.60	4.00-14.00	0.14-0.19	1.0-3.0	0.1-0.3
	22-30	10-18	1.45-1.60	4.00-14.00	0.10-0.19	1.0-3.0	0.1-0.2
	30-40	---	---	0.10-1.00	---	---	---
441: Sodic Haplocambids, thick----	0-3	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	1.0-1.8
	3-12	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	0.5-1.0
	12-18	7-18	1.45-1.55	4.00-42.00	0.07-0.13	1.0-3.0	0.2-0.8
	18-24	7-50	1.45-1.55	1.40-14.00	0.07-0.15	1.0-3.0	0.2-0.6
	24-27	8-50	1.50-1.60	1.40-42.00	0.08-0.13	1.0-3.0	0.1-0.5
	27-42	10-50	1.40-1.50	0.40-14.00	0.06-0.13	6.0-9.0	0.1-0.2
	42-54	15-50	1.45-1.55	1.40-14.00	0.06-0.15	3.0-6.0	0.0-0.1
	54-61	15-50	1.45-1.55	4.00-14.00	0.08-0.12	3.0-6.0	0.0-0.1

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
442: Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
443: Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
Badlands.							
444: Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
445: Sodic Haplocambids, thick----	0-3	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	1.0-1.8
	3-12	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	0.5-1.0
	12-18	7-18	1.45-1.55	4.00-42.00	0.07-0.13	1.0-3.0	0.2-0.8
	18-24	7-50	1.45-1.55	1.40-14.00	0.07-0.15	1.0-3.0	0.2-0.6
	24-27	8-50	1.50-1.60	1.40-42.00	0.08-0.13	1.0-3.0	0.1-0.5
	27-42	10-50	1.40-1.50	0.40-14.00	0.06-0.13	6.0-9.0	0.1-0.2
	42-54	15-50	1.45-1.55	1.40-14.00	0.06-0.15	3.0-6.0	0.0-0.1
	54-61	15-50	1.45-1.55	4.00-14.00	0.08-0.12	3.0-6.0	0.0-0.1
Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
451: Beam-----	0-4	12-25	1.50-1.60	14.00-42.00	0.11-0.22	1.0-3.0	0.5-1.0
	4-15	12-25	1.50-1.60	14.00-42.00	0.11-0.22	1.0-3.0	0.2-0.4
	15-25	---	---	0.10-1.00	---	---	---
Panoza-----	0-6	18-25	1.50-1.60	4.00-14.00	0.10-0.22	2.0-4.0	0.5-1.0
	6-18	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.2-0.4
	18-24	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.1-0.2
	24-34	---	---	0.10-1.00	---	---	---
Hillbrick-----	0-4	10-18	1.45-1.55	14.00-42.00	0.20-0.22	0.0-2.9	0.2-0.5
	4-15	10-18	1.45-1.55	14.00-42.00	0.20-0.22	0.0-2.9	0.1-0.2
	15-25	---	---	0.00-0.10	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
460:							
Geghus-----	0-2	12-25	1.45-1.60	4.00-14.00	0.18-0.24	1.0-3.0	2.0-4.0
	2-6	12-25	1.45-1.55	4.00-14.00	0.12-0.24	1.0-3.0	1.5-3.0
	6-15	12-40	1.40-1.55	4.00-14.00	0.16-0.24	1.0-3.0	1.0-1.5
	15-29	20-40	1.40-1.55	1.40-14.00	0.16-0.22	3.0-6.0	0.5-1.0
	29-44	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.3-0.7
	44-54	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.2-0.3
	54-62	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.1-0.3
Tecuya-----	0-3	5-18	1.40-1.55	1.40-14.00	0.14-0.21	1.0-3.0	1.0-2.0
	3-9	5-18	1.40-1.55	1.40-14.00	0.14-0.21	1.0-3.0	1.0-1.5
	9-28	10-30	1.40-1.55	1.40-14.00	0.08-0.16	1.0-3.0	1.0-1.3
	28-38	18-30	1.40-1.55	1.40-14.00	0.08-0.16	1.0-3.0	0.2-0.4
	38-60	18-30	1.40-1.55	1.40-14.00	0.02-0.09	1.0-3.0	0.1-0.3
461:							
Geghus-----	0-2	12-25	1.45-1.60	4.00-14.00	0.18-0.24	1.0-3.0	2.0-4.0
	2-6	12-25	1.45-1.55	4.00-14.00	0.12-0.24	1.0-3.0	1.5-3.0
	6-15	12-40	1.40-1.55	4.00-14.00	0.16-0.24	1.0-3.0	1.0-1.5
	15-29	20-40	1.40-1.55	1.40-14.00	0.16-0.22	3.0-6.0	0.5-1.0
	29-44	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.3-0.7
	44-54	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.2-0.3
	54-62	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.1-0.3
Tecuya-----	0-3	5-18	1.40-1.55	1.40-14.00	0.14-0.21	1.0-3.0	1.0-2.0
	3-9	5-18	1.40-1.55	1.40-14.00	0.14-0.21	1.0-3.0	1.0-1.5
	9-28	10-30	1.40-1.55	1.40-14.00	0.08-0.16	1.0-3.0	1.0-1.3
	28-38	18-30	1.40-1.55	1.40-14.00	0.08-0.16	1.0-3.0	0.2-0.4
	38-60	18-30	1.40-1.55	1.40-14.00	0.02-0.09	1.0-3.0	0.1-0.3
462:							
Geghus-----	0-2	12-25	1.45-1.60	4.00-14.00	0.18-0.24	1.0-3.0	2.0-4.0
	2-6	12-25	1.45-1.55	4.00-14.00	0.12-0.24	1.0-3.0	1.5-3.0
	6-15	12-40	1.40-1.55	4.00-14.00	0.16-0.24	1.0-3.0	1.0-1.5
	15-29	20-40	1.40-1.55	1.40-14.00	0.16-0.22	3.0-6.0	0.5-1.0
	29-44	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.3-0.7
	44-54	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.2-0.3
	54-62	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.1-0.3
Xeric Torriorthents, very gravelly-----	0-2	3-10	1.50-1.60	14.00-42.00	0.05-0.14	0.0-3.0	0.5-1.0
	2-7	3-10	1.50-1.60	14.00-42.00	0.05-0.14	0.0-3.0	0.2-0.5
	7-26	3-10	1.50-1.60	14.00-42.00	0.03-0.12	0.0-3.0	0.1-0.2
	26-36	---	---	0.00-0.10	---	---	---
470:							
Pyxo-----	0-5	10-18	1.45-1.60	4.00-14.00	0.11-0.22	1.0-3.0	0.2-1.0
	5-12	10-18	1.45-1.60	4.00-14.00	0.16-0.22	1.0-3.0	0.1-0.5
	12-22	10-18	1.45-1.60	4.00-14.00	0.14-0.19	1.0-3.0	0.1-0.3
	22-30	10-18	1.45-1.60	4.00-14.00	0.10-0.19	1.0-3.0	0.1-0.2
	30-40	---	---	0.10-1.00	---	---	---
Cochora-----	0-2	8-18	1.45-1.55	4.00-42.00	0.10-0.22	1.0-3.0	0.2-1.0
	2-9	8-18	1.45-1.55	4.00-42.00	0.10-0.22	1.0-3.0	0.2-0.4
	9-15	5-18	1.50-1.60	4.00-42.00	0.10-0.19	1.0-3.0	0.1-0.2
	15-25	---	---	0.10-1.00	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
471:							
Pyxo-----	0-5	10-18	1.45-1.60	4.00-14.00	0.11-0.22	1.0-3.0	0.2-1.0
	5-12	10-18	1.45-1.60	4.00-14.00	0.16-0.22	1.0-3.0	0.1-0.5
	12-22	10-18	1.45-1.60	4.00-14.00	0.14-0.19	1.0-3.0	0.1-0.3
	22-30	10-18	1.45-1.60	4.00-14.00	0.10-0.19	1.0-3.0	0.1-0.2
	30-40	---	---	0.10-1.00	---	---	---
Cochora-----	0-2	8-18	1.45-1.55	4.00-42.00	0.10-0.22	1.0-3.0	0.2-1.0
	2-9	8-18	1.45-1.55	4.00-42.00	0.10-0.22	1.0-3.0	0.2-0.4
	9-15	5-18	1.50-1.60	4.00-42.00	0.10-0.19	1.0-3.0	0.1-0.2
	15-25	---	---	0.10-1.00	---	---	---
Badlands.							
472:							
Pyxo-----	0-5	10-18	1.45-1.60	4.00-14.00	0.11-0.22	1.0-3.0	0.2-1.0
	5-12	10-18	1.45-1.60	4.00-14.00	0.16-0.22	1.0-3.0	0.1-0.5
	12-22	10-18	1.45-1.60	4.00-14.00	0.14-0.19	1.0-3.0	0.1-0.3
	22-30	10-18	1.45-1.60	4.00-14.00	0.10-0.19	1.0-3.0	0.1-0.2
	30-40	---	---	0.10-1.00	---	---	---
Kimberlina-----	0-10	6-18	1.50-1.60	4.00-14.00	0.10-0.18	1.0-3.0	0.5-1.0
	10-19	6-18	1.50-1.60	4.00-14.00	0.07-0.14	1.0-3.0	0.3-0.7
	19-28	6-18	1.50-1.60	14.00-42.00	0.07-0.14	1.0-3.0	0.2-0.4
	28-45	6-18	1.50-1.60	14.00-42.00	0.07-0.13	1.0-3.0	0.1-0.3
	45-60	6-18	1.50-1.60	14.00-42.00	0.07-0.13	1.0-3.0	0.1-0.2
Cochora-----	0-2	10-18	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.5
	2-9	10-18	1.45-1.55	4.00-14.00	0.17-0.22	1.0-3.0	0.2-0.5
	9-15	3-10	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.1-0.2
	15-25	---	---	0.10-1.00	---	---	---
480:							
Pyxo, dry-----	0-5	10-18	1.45-1.60	4.00-14.00	0.11-0.22	1.0-3.0	0.2-1.0
	5-12	10-18	1.45-1.60	4.00-14.00	0.16-0.22	1.0-3.0	0.1-0.5
	12-22	10-18	1.45-1.60	4.00-14.00	0.14-0.19	1.0-3.0	0.1-0.3
	22-30	10-18	1.45-1.60	4.00-14.00	0.10-0.19	1.0-3.0	0.1-0.2
	30-40	---	---	0.10-1.00	---	---	---
Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
490:							
Padres-----	0-3	8-18	1.50-1.60	14.00-42.00	0.11-0.18	1.0-3.0	0.5-1.0
	3-16	8-18	1.50-1.60	14.00-42.00	0.11-0.18	1.0-3.0	0.2-0.4
	16-30	8-18	1.55-1.65	4.00-42.00	0.07-0.16	1.0-3.0	0.0-0.2
	30-38	8-18	1.45-1.55	4.00-42.00	0.11-0.18	1.0-3.0	0.0-0.1
	38-46	8-18	1.50-1.60	4.00-42.00	0.11-0.18	1.0-3.0	0.0-0.1
	46-62	8-18	1.55-1.65	4.00-42.00	0.07-0.16	1.0-3.0	0.0-0.1
500:							
Bitcreek-----	0-3	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	2.0-4.0
	3-8	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	1.0-2.0
	8-19	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	19-31	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	31-38	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	0.1-0.5
	38-60	19-55	1.35-1.55	0.04-14.00	0.07-0.19	6.0-9.0	0.1-0.3

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
510:							
Beam-----	0-4	12-25	1.50-1.60	14.00-42.00	0.11-0.22	1.0-3.0	0.5-1.0
	4-15	12-25	1.50-1.60	14.00-42.00	0.11-0.22	1.0-3.0	0.2-0.4
	15-25	---	---	0.10-1.00	---	---	---
Panoza-----	0-6	18-25	1.50-1.60	4.00-14.00	0.10-0.22	2.0-4.0	0.5-1.0
	6-18	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.2-0.4
	18-24	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.1-0.2
	24-34	---	---	0.10-1.00	---	---	---
Hillbrick-----	0-4	10-18	1.45-1.55	14.00-42.00	0.20-0.22	0.0-2.9	0.2-0.5
	4-15	10-18	1.45-1.55	14.00-42.00	0.20-0.22	0.0-2.9	0.1-0.2
	15-25	---	---	0.00-0.10	---	---	---
511:							
Beam-----	0-4	12-25	1.50-1.60	14.00-42.00	0.11-0.22	1.0-3.0	0.5-1.0
	4-15	12-25	1.50-1.60	14.00-42.00	0.11-0.22	1.0-3.0	0.2-0.4
	15-25	---	---	0.10-1.00	---	---	---
Panoza-----	0-6	18-25	1.50-1.60	4.00-14.00	0.10-0.22	2.0-4.0	0.5-1.0
	6-18	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.2-0.4
	18-24	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.1-0.2
	24-34	---	---	0.10-1.00	---	---	---
Hillbrick-----	0-4	10-18	1.45-1.55	14.00-42.00	0.20-0.22	0.0-2.9	0.2-0.5
	4-15	10-18	1.45-1.55	14.00-42.00	0.20-0.22	0.0-2.9	0.1-0.2
	15-25	---	---	0.00-0.10	---	---	---
515:							
Zonap-----	0-3	10-18	1.50-1.60	4.00-14.00	0.10-0.18	1.0-3.0	0.8-1.5
	3-10	10-18	1.50-1.60	4.00-14.00	0.11-0.18	1.0-3.0	0.3-0.7
	10-26	10-18	1.50-1.60	4.00-14.00	0.06-0.17	1.0-3.0	0.1-0.2
	26-36	---	---	0.10-1.00	---	---	---
Badlands.							
Beam-----	0-3	8-18	1.50-1.60	14.00-42.00	0.08-0.15	1.0-3.0	0.5-1.0
	3-15	8-18	1.50-1.60	14.00-42.00	0.08-0.15	1.0-3.0	0.2-0.7
	15-25	---	---	0.10-1.00	---	---	---
516:							
Zonap-----	0-3	10-18	1.50-1.60	4.00-14.00	0.10-0.18	1.0-3.0	0.8-1.5
	3-10	10-18	1.50-1.60	4.00-14.00	0.11-0.18	1.0-3.0	0.3-0.7
	10-26	10-18	1.50-1.60	4.00-14.00	0.06-0.17	1.0-3.0	0.1-0.2
	26-36	---	---	0.10-1.00	---	---	---
Beam-----	0-3	8-18	1.50-1.60	14.00-42.00	0.08-0.15	1.0-3.0	0.5-1.0
	3-15	8-18	1.50-1.60	14.00-42.00	0.08-0.15	1.0-3.0	0.2-0.7
	15-25	---	---	0.10-1.00	---	---	---
530:							
Tehachapi-----	0-1	15-25	---	4.00-14.00	0.08-0.22	1.0-3.0	2.0-3.0
	1-5	20-35	---	4.00-14.00	0.11-0.20	3.0-6.0	1.0-1.8
	5-19	20-35	---	4.00-14.00	0.08-0.18	3.0-6.0	1.0-1.5
	19-24	20-35	---	4.00-14.00	0.08-0.18	3.0-6.0	0.5-0.8
	24-34	20-35	---	4.00-14.00	0.05-0.12	0.0-2.0	0.3-0.6
	34-48	20-35	---	4.00-14.00	0.04-0.11	0.0-2.0	0.1-0.3
	48-60	20-35	---	4.00-14.00	0.03-0.11	0.0-2.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
531: Tehachapi-----	0-1	15-25	---	4.00-14.00	0.08-0.22	1.0-3.0	2.0-3.0
	1-5	20-35	---	4.00-14.00	0.11-0.20	3.0-6.0	1.0-1.8
	5-19	20-35	---	4.00-14.00	0.08-0.18	3.0-6.0	1.0-1.5
	19-24	20-35	---	4.00-14.00	0.08-0.18	3.0-6.0	0.5-0.8
	24-34	20-35	---	4.00-14.00	0.05-0.12	0.0-2.0	0.3-0.6
	34-48	20-35	---	4.00-14.00	0.04-0.11	0.0-2.0	0.1-0.3
	48-60	20-35	---	4.00-14.00	0.03-0.11	0.0-2.0	0.1-0.2
540: Xeric Torriorthents-----	0-10	10-15	1.50-1.60	14.00-42.00	0.07-0.11	0.0-2.9	0.5-1.0
	10-24	10-20	1.45-1.60	4.00-42.00	0.04-0.12	0.0-2.9	0.1-0.3
	24-43	10-20	1.45-1.60	4.00-42.00	0.03-0.07	0.0-2.9	0.1-0.1
	43-53	---	---	0.00-0.10	---	---	---
Badlands.							
550: Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
Welport-----	0-3	5-18	1.50-1.60	14.00-42.00	0.11-0.14	1.0-3.0	1.5-3.0
	3-9	5-18	1.50-1.60	14.00-42.00	0.11-0.14	1.0-3.0	0.5-1.5
	9-12	5-18	1.50-1.60	14.00-42.00	0.11-0.14	1.0-3.0	0.1-0.3
	12-27	---	---	0.00-0.01	---	---	---
	27-60	5-18	1.50-1.60	14.00-42.00	0.06-0.11	1.0-3.0	0.0-0.1
560: Laval-----	0-4	10-18	1.50-1.60	14.00-42.00	0.09-0.15	0.0-3.0	1.5-2.5
	4-13	4-18	1.50-1.60	14.00-42.00	0.01-0.15	0.0-3.0	0.8-2.0
	13-20	4-18	1.50-1.60	14.00-42.00	0.01-0.14	0.0-3.0	0.1-0.8
	20-23	4-10	1.55-1.65	14.00-141.00	0.08-0.14	0.0-3.0	0.0-0.2
	23-32	4-10	1.60-1.70	42.00-282.00	0.01-0.14	0.0-3.0	0.1-0.2
	32-48	4-10	1.55-1.65	14.00-141.00	0.01-0.13	0.0-3.0	0.1-0.3
	48-62	4-10	1.55-1.65	14.00-141.00	0.01-0.13	0.0-3.0	0.1-0.2
Pleitito-----	0-3	3-10	1.50-1.60	14.00-42.00	0.08-0.15	0.0-2.9	1.0-1.5
	3-8	3-10	1.50-1.60	14.00-42.00	0.08-0.15	0.0-2.9	0.2-0.6
	8-11	3-10	1.50-1.65	14.00-42.00	0.06-0.13	0.0-2.9	0.2-0.6
	11-18	2-5	1.55-1.70	141.00-282.00	0.02-0.07	0.0-2.9	0.2-0.6
	18-21	2-5	1.55-1.70	141.00-282.00	0.03-0.07	0.0-2.9	0.2-0.4
	21-29	5-10	1.50-1.60	14.00-42.00	0.04-0.13	0.0-2.9	0.0-0.2
	29-48	5-10	1.50-1.60	14.00-42.00	0.04-0.12	0.0-2.9	0.2-1.2
	48-65	5-10	1.50-1.60	14.00-42.00	0.05-0.12	0.0-2.9	0.0-0.1
561: Laval-----	0-4	10-18	1.50-1.60	14.00-42.00	0.09-0.15	0.0-3.0	1.5-2.5
	4-13	4-18	1.50-1.60	14.00-42.00	0.01-0.15	0.0-3.0	0.8-2.0
	13-20	4-18	1.50-1.60	14.00-42.00	0.01-0.14	0.0-3.0	0.1-0.8
	20-23	4-10	1.55-1.65	14.00-141.00	0.08-0.14	0.0-3.0	0.0-0.2
	23-32	4-10	1.60-1.70	42.00-282.00	0.01-0.14	0.0-3.0	0.1-0.2
	32-48	4-10	1.55-1.65	14.00-141.00	0.01-0.13	0.0-3.0	0.1-0.3
	48-62	4-10	1.55-1.65	14.00-141.00	0.01-0.13	0.0-3.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
561: Pleitito-----	0-3	3-10	1.50-1.60	14.00-42.00	0.08-0.15	0.0-2.9	1.0-1.5
	3-8	3-10	1.50-1.60	14.00-42.00	0.08-0.15	0.0-2.9	0.2-0.6
	8-11	3-10	1.50-1.65	14.00-42.00	0.06-0.13	0.0-2.9	0.2-0.6
	11-18	2-5	1.55-1.70	141.00-282.00	0.02-0.07	0.0-2.9	0.2-0.6
	18-21	2-5	1.55-1.70	141.00-282.00	0.03-0.07	0.0-2.9	0.2-0.4
	21-29	5-10	1.50-1.60	14.00-42.00	0.04-0.13	0.0-2.9	0.0-0.2
	29-48	5-10	1.50-1.60	14.00-42.00	0.04-0.12	0.0-2.9	0.2-1.2
	48-65	5-10	1.50-1.60	14.00-42.00	0.05-0.12	0.0-2.9	0.0-0.1
570: Hillbrick-----	0-4	10-18	1.45-1.55	14.00-42.00	0.20-0.22	0.0-2.9	0.2-0.5
	4-15	10-18	1.45-1.55	14.00-42.00	0.20-0.22	0.0-2.9	0.1-0.2
	15-25	---	---	0.00-0.10	---	---	---
Rock outcrop.							
571: Hillbrick-----	0-4	10-18	1.45-1.55	14.00-42.00	0.20-0.22	0.0-2.9	0.2-0.5
	4-15	10-18	1.45-1.55	14.00-42.00	0.20-0.22	0.0-2.9	0.1-0.2
	15-25	---	---	0.00-0.10	---	---	---
Rock outcrop.							
580: Reward-----	0-24	18-25	1.45-1.55	4.00-14.00	0.10-0.18	0.0-2.9	1.0-3.0
	24-39	20-27	1.45-1.55	4.00-14.00	0.10-0.17	0.0-2.9	0.2-0.4
	39-60	26-30	1.40-1.50	4.00-14.00	0.08-0.14	3.0-5.9	0.1-0.2
	60-70	---	---	0.00-0.10	0.00-0.00	---	---
Hillbrick-----	0-2	10-18	1.50-1.60	4.00-14.00	0.11-0.15	1.0-3.0	0.2-0.5
	2-6	10-18	1.50-1.60	4.00-14.00	0.11-0.15	1.0-3.0	0.1-0.5
	6-15	10-18	1.50-1.60	4.00-14.00	0.11-0.15	1.0-3.0	0.1-0.5
	15-25	---	---	0.00-0.10	---	---	---
581: Reward-----	0-24	18-25	1.45-1.55	4.00-14.00	0.10-0.18	0.0-2.9	1.0-3.0
	24-39	20-27	1.45-1.55	4.00-14.00	0.10-0.17	0.0-2.9	0.2-0.4
	39-60	26-30	1.40-1.50	4.00-14.00	0.08-0.14	3.0-5.9	0.1-0.2
	60-70	---	---	0.00-0.10	0.00-0.00	---	---
583: Bellyspring-----	0-3	10-18	1.50-1.60	4.00-14.00	0.12-0.21	1.0-3.0	0.5-1.0
	3-13	10-25	1.40-1.50	4.00-14.00	0.12-0.21	1.0-3.0	0.3-0.5
	13-23	28-35	1.35-1.50	1.40-14.00	0.10-0.17	3.0-6.0	0.1-0.3
	23-38	8-18	1.55-1.65	14.00-42.00	0.06-0.13	0.0-2.0	0.1-0.2
	38-40	---	---	0.10-1.00	---	---	---
Panoza-----	0-6	18-25	1.50-1.60	4.00-14.00	0.10-0.22	2.0-4.0	0.5-1.0
	6-18	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.2-0.4
	18-24	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.1-0.2
	24-34	---	---	0.10-1.00	---	---	---
584: Bellyspring-----	0-3	10-18	1.50-1.60	4.00-14.00	0.12-0.21	1.0-3.0	0.5-1.0
	3-13	10-25	1.40-1.50	4.00-14.00	0.12-0.21	1.0-3.0	0.3-0.5
	13-23	28-35	1.35-1.50	1.40-14.00	0.10-0.17	3.0-6.0	0.1-0.3
	23-38	8-18	1.55-1.65	14.00-42.00	0.06-0.13	0.0-2.0	0.1-0.2
	38-40	---	---	0.10-1.00	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
584: Panoza-----	0-6	18-25	1.50-1.60	4.00-14.00	0.10-0.22	2.0-4.0	0.5-1.0
	6-18	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.2-0.4
	18-24	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.1-0.2
	24-34	---	---	0.10-1.00	---	---	---
585: Bellyspring-----	0-3	10-18	1.50-1.60	4.00-14.00	0.12-0.21	1.0-3.0	0.5-1.0
	3-13	10-25	1.40-1.50	4.00-14.00	0.12-0.21	1.0-3.0	0.3-0.5
	13-23	28-35	1.35-1.50	1.40-14.00	0.10-0.17	3.0-6.0	0.1-0.3
	23-38	8-18	1.55-1.65	14.00-42.00	0.06-0.13	0.0-2.0	0.1-0.2
	38-40	---	---	0.10-1.00	---	---	---
Panoza-----	0-6	18-25	1.50-1.60	4.00-14.00	0.10-0.22	2.0-4.0	0.5-1.0
	6-18	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.2-0.4
	18-24	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.1-0.2
	24-34	---	---	0.10-1.00	---	---	---
586: Panoza-----	0-6	18-25	1.50-1.60	4.00-14.00	0.10-0.22	2.0-4.0	0.5-1.0
	6-18	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.2-0.4
	18-24	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.1-0.2
	24-34	---	---	0.10-1.00	---	---	---
Beam-----	0-4	12-25	1.50-1.60	14.00-42.00	0.11-0.22	1.0-3.0	0.5-1.0
	4-15	12-25	1.50-1.60	14.00-42.00	0.11-0.22	1.0-3.0	0.2-0.4
	15-25	---	---	0.10-1.00	---	---	---
587: Panoza-----	0-6	18-25	1.50-1.60	4.00-14.00	0.10-0.22	2.0-4.0	0.5-1.0
	6-18	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.2-0.4
	18-24	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.1-0.2
	24-34	---	---	0.10-1.00	---	---	---
Beam-----	0-4	12-25	1.50-1.60	14.00-42.00	0.11-0.22	1.0-3.0	0.5-1.0
	4-15	12-25	1.50-1.60	14.00-42.00	0.11-0.22	1.0-3.0	0.2-0.4
	15-25	---	---	0.10-1.00	---	---	---
588: Panoza-----	0-6	18-25	1.50-1.60	4.00-14.00	0.10-0.22	2.0-4.0	0.5-1.0
	6-18	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.2-0.4
	18-24	18-25	1.50-1.60	4.00-14.00	0.06-0.19	2.0-4.0	0.1-0.2
	24-34	---	---	0.10-1.00	---	---	---
Beam-----	0-4	12-25	1.50-1.60	14.00-42.00	0.11-0.22	1.0-3.0	0.5-1.0
	4-15	12-25	1.50-1.60	14.00-42.00	0.11-0.22	1.0-3.0	0.2-0.4
	15-25	---	---	0.10-1.00	---	---	---
590: Gorman-----	0-7	10-20	1.45-1.60	4.00-14.00	0.11-0.15	0.0-2.0	2.0-4.0
	7-15	10-20	1.45-1.60	4.00-14.00	0.11-0.15	1.0-3.0	1.0-3.0
	15-23	10-27	1.45-1.60	4.00-14.00	0.14-0.19	3.0-5.0	1.0-1.5
	23-37	20-35	1.45-1.55	4.00-14.00	0.14-0.18	3.0-6.0	0.5-1.0
	37-48	20-35	1.45-1.55	4.00-14.00	0.13-0.17	3.0-6.0	0.3-0.7
	48-61	20-35	1.40-1.50	1.40-4.00	0.12-0.16	3.0-6.0	0.1-0.3
Typic Xerorthents, mesic----	0-4	8-18	1.40-1.55	4.00-14.00	0.10-0.21	0.0-2.0	0.8-1.5
	4-9	8-18	1.40-1.55	4.00-14.00	0.10-0.21	0.0-2.0	0.6-0.8
	9-18	8-18	1.40-1.55	4.00-14.00	0.08-0.17	0.0-2.0	0.5-0.7
	18-24	8-18	1.40-1.55	4.00-14.00	0.05-0.15	0.0-2.0	0.2-0.4
	24-34	8-18	1.40-1.55	4.00-42.00	0.04-0.13	0.0-2.0	0.1-0.2
	34-44	---	---	0.00-1.00	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
590: Xerorthents, shallow-----	0-8	20-34	1.50-1.60	4.00-14.00	0.13-0.15	0.0-2.0	0.5-0.7
	8-13	5-19	1.50-1.60	4.00-42.00	0.10-0.15	0.0-2.0	0.1-0.2
	13-23	---	---	0.00-1.00	---	---	---
591: Geghus-----	0-2	12-25	1.45-1.60	4.00-14.00	0.18-0.24	1.0-3.0	2.0-4.0
	2-6	12-25	1.45-1.55	4.00-14.00	0.12-0.24	1.0-3.0	1.5-3.0
	6-15	12-40	1.40-1.55	4.00-14.00	0.16-0.24	1.0-3.0	1.0-1.5
	15-29	20-40	1.40-1.55	1.40-14.00	0.16-0.22	3.0-6.0	0.5-1.0
	29-44	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.3-0.7
	44-54	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.2-0.3
	54-62	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.1-0.3
Selby-----	0-3	10-25	1.45-1.55	4.00-14.00	0.05-0.15	1.0-3.0	1.0-3.0
	3-8	10-30	1.45-1.55	1.40-14.00	0.05-0.15	1.0-3.0	1.0-2.0
	8-16	22-35	1.40-1.55	1.40-14.00	0.04-0.12	2.0-4.0	1.0-1.8
	16-25	8-18	1.50-1.60	14.00-42.00	0.01-0.07	1.0-3.0	0.1-0.4
	25-35	---	---	0.00-0.10	---	---	---
600: Positas-----	0-2	10-26	1.40-1.55	4.00-14.00	0.12-0.22	1.0-3.0	1.0-4.0
	2-10	10-26	1.40-1.55	4.00-14.00	0.12-0.22	1.0-3.0	0.8-0.9
	10-15	10-26	1.40-1.55	4.00-14.00	0.11-0.19	1.0-3.0	0.8-0.9
	15-19	35-45	1.40-1.55	0.04-4.00	0.08-0.17	3.0-6.0	0.4-1.0
	19-32	35-45	1.40-1.55	0.04-1.40	0.08-0.17	6.0-9.0	0.3-0.8
	32-37	35-45	1.40-1.55	0.04-4.00	0.08-0.17	3.0-6.0	0.1-0.5
	37-44	30-45	1.40-1.55	0.04-4.00	0.08-0.17	3.0-6.0	0.1-0.4
	44-55	20-30	1.40-1.55	1.40-14.00	0.07-0.16	1.0-3.0	0.1-1.5
	55-67	8-18	1.50-1.60	14.00-42.00	0.02-0.10	1.0-3.0	0.1-0.5
Bitcreek-----	0-3	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	2.0-4.0
	3-8	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	1.0-2.0
	8-19	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	19-31	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	31-38	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	0.1-0.5
	38-60	19-55	1.35-1.55	0.04-14.00	0.07-0.19	6.0-9.0	0.1-0.3
610: Balcom-----	0-2	15-25	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	1.0-2.0
	2-10	15-25	1.45-1.55	4.00-14.00	0.20-0.22	1.0-3.0	0.8-1.2
	10-20	15-25	1.45-1.55	4.00-14.00	0.16-0.19	1.0-3.0	0.2-0.8
	20-33	15-25	1.45-1.55	4.00-14.00	0.17-0.19	1.0-3.0	0.1-0.5
	33-43	---	---	0.10-1.00	---	---	---
Rock outcrop.							
620: Typic Xerorthents, mesic----	0-4	8-18	1.40-1.55	4.00-14.00	0.10-0.21	0.0-2.0	0.8-1.5
	4-9	8-18	1.40-1.55	4.00-14.00	0.10-0.21	0.0-2.0	0.6-0.8
	9-18	8-18	1.40-1.55	4.00-14.00	0.08-0.17	0.0-2.0	0.5-0.7
	18-24	8-18	1.40-1.55	4.00-14.00	0.05-0.15	0.0-2.0	0.2-0.4
	24-34	8-18	1.40-1.55	4.00-42.00	0.04-0.13	0.0-2.0	0.1-0.2
	34-44	---	---	0.10-1.00	---	---	---
Haploxerepts-----	0-7	8-34	1.45-1.65	1.40-42.00	0.08-0.16	1.0-3.0	0.8-1.2
	7-20	8-34	1.45-1.65	1.40-14.00	0.07-0.14	1.0-3.0	0.5-0.7
	20-41	8-34	1.45-1.65	1.40-14.00	0.07-0.14	1.0-3.0	0.1-0.3
	41-60	8-34	1.45-1.65	1.40-14.00	0.07-0.14	1.0-3.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
620: Xerorthents, sandy-----	0-11	3-12	1.50-1.65	42.00-141.00	0.07-0.11	0.0-3.0	0.5-1.2
	11-22	3-12	1.50-1.65	42.00-141.00	0.05-0.10	0.0-3.0	0.4-0.9
	22-33	3-12	1.50-1.65	42.00-141.00	0.03-0.09	0.0-3.0	0.2-0.4
	33-41	3-12	1.50-1.65	42.00-141.00	0.06-0.09	0.0-3.0	0.1-0.2
	41-51	---	---	0.01-1.00	---	---	---
640: Bitcreek-----	0-3	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	2.0-4.0
	3-8	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	1.0-2.0
	8-19	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	19-31	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	31-38	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	0.1-0.5
	38-60	19-55	1.35-1.55	0.04-14.00	0.07-0.19	6.0-9.0	0.1-0.3
Dibble-----	0-3	20-35	---	4.00-14.00	0.15-0.20	1.0-3.0	0.8-1.5
	3-12	28-45	---	0.40-1.40	0.08-0.18	3.0-6.0	0.6-0.8
	12-22	28-45	---	0.40-1.40	0.07-0.16	3.0-6.0	0.4-0.6
	22-31	28-45	---	0.40-1.40	0.11-0.16	3.0-6.0	0.1-0.3
	31-38	28-45	---	0.40-1.40	0.04-0.11	1.0-3.0	0.1-0.2
	38-48	---	---	0.00-1.00	---	---	---
Eaglerest-----	0-2	15-20	1.40-1.55	4.00-14.00	0.17-0.21	1.0-3.0	0.8-1.5
	2-6	20-30	1.40-1.55	1.40-14.00	0.07-0.19	2.0-4.0	0.2-1.0
	6-13	20-30	1.40-1.55	1.40-14.00	0.07-0.19	2.0-4.0	0.1-0.3
	13-23	---	---	0.02-1.00	---	---	---
650: Lithic Argixerolls-----	0-2	5-18	1.50-1.60	14.00-42.00	0.11-0.16	0.0-2.0	1.0-1.5
	2-7	5-18	1.50-1.69	14.00-42.00	0.02-0.14	0.0-2.0	1.0-1.4
	7-11	10-18	1.50-1.60	4.00-14.00	0.01-0.14	1.0-3.0	1.0-1.2
	11-21	---	---	0.00-0.10	---	---	---
Lithic Xerorthents, mesic----	0-7	5-10	1.45-1.60	14.00-42.00	0.01-0.09	0.0-2.0	0.5-1.0
	7-9	5-10	1.45-1.60	14.00-42.00	0.01-0.09	0.0-2.0	0.1-0.3
	9-19	---	---	0.00-0.10	---	---	---
Rock outcrop.							
660: Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
Legray-----	0-4	8-18	1.50-1.65	14.00-42.00	0.10-0.14	1.0-3.0	0.5-1.0
	4-13	8-18	1.50-1.65	14.00-42.00	0.09-0.13	1.0-3.0	0.4-0.6
	13-26	8-18	1.50-1.65	14.00-42.00	0.05-0.10	1.0-3.0	0.3-0.5
	26-32	3-10	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.0	0.2-0.4
	32-39	3-10	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.0	0.1-0.3
	39-48	3-10	1.50-1.65	42.00-141.00	0.05-0.09	0.0-2.0	0.1-0.2
	48-61	3-10	1.50-1.65	42.00-141.00	0.05-0.09	0.0-2.0	0.1-0.1
	61-65	3-10	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.0	0.0-0.1

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
661:							
Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
Legray-----	0-4	8-18	1.50-1.65	14.00-42.00	0.10-0.14	1.0-3.0	0.5-1.0
	4-13	8-18	1.50-1.65	14.00-42.00	0.09-0.13	1.0-3.0	0.4-0.6
	13-26	8-18	1.50-1.65	14.00-42.00	0.05-0.10	1.0-3.0	0.3-0.5
	26-32	3-10	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.0	0.2-0.4
	32-39	3-10	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.0	0.1-0.3
	39-48	3-10	1.50-1.65	42.00-141.00	0.05-0.09	0.0-2.0	0.1-0.2
	48-61	3-10	1.50-1.65	42.00-141.00	0.05-0.09	0.0-2.0	0.1-0.1
	61-65	3-10	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.0	0.0-0.1
670:							
Harrisranch-----	0-3	10-18	1.50-1.60	4.00-14.00	0.13-0.15	1.0-3.0	1.0-3.0
	3-23	10-18	1.50-1.60	4.00-14.00	0.12-0.14	1.0-3.0	1.0-1.5
	23-43	10-18	1.50-1.60	4.00-14.00	0.12-0.14	1.0-3.0	0.5-1.0
	43-65	10-18	1.50-1.60	4.00-14.00	0.11-0.13	1.0-3.0	0.2-0.8
Rock outcrop.							
680:							
Milham-----	0-5	8-20	1.50-1.60	14.00-42.00	0.10-0.15	1.0-3.0	0.3-0.8
	5-12	8-20	1.50-1.60	4.00-14.00	0.10-0.15	1.0-3.0	0.1-0.5
	12-18	8-20	1.50-1.60	4.00-14.00	0.10-0.14	1.0-3.0	0.1-0.5
	18-24	23-30	1.40-1.60	4.00-14.00	0.13-0.18	3.0-6.0	0.1-0.5
	24-33	23-30	1.40-1.50	4.00-14.00	0.13-0.18	3.0-6.0	0.1-0.5
	33-43	10-30	1.40-1.50	4.00-14.00	0.12-0.17	3.0-6.0	0.1-0.3
	43-55	10-30	1.40-1.50	4.00-14.00	0.09-0.17	1.0-3.0	0.1-0.3
	55-60	5-10	1.55-1.65	42.00-141.00	0.06-0.13	1.0-3.0	0.1-0.2
690:							
Dibble-----	0-3	20-35	---	4.00-14.00	0.15-0.20	1.0-3.0	0.8-1.5
	3-12	28-45	---	0.40-1.40	0.08-0.18	3.0-6.0	0.6-0.8
	12-22	28-45	---	0.40-1.40	0.07-0.16	3.0-6.0	0.4-0.6
	22-31	28-45	---	0.40-1.40	0.11-0.16	3.0-6.0	0.1-0.3
	31-38	28-45	---	0.40-1.40	0.04-0.11	1.0-3.0	0.1-0.2
	38-48	---	---	0.10-1.00	---	---	---
Geghus-----	0-2	12-25	1.45-1.60	4.00-14.00	0.18-0.24	1.0-3.0	2.0-4.0
	2-6	12-25	1.45-1.55	4.00-14.00	0.12-0.24	1.0-3.0	1.5-3.0
	6-15	12-40	1.40-1.55	4.00-14.00	0.16-0.24	1.0-3.0	1.0-1.5
	15-29	20-40	1.40-1.55	1.40-14.00	0.16-0.22	3.0-6.0	0.5-1.0
	29-44	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.3-0.7
	44-54	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.2-0.3
	54-62	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.1-0.3
700:							
Xerolls, loamy-skeletal-----	0-8	18-27	1.45-1.55	4.00-14.00	0.04-0.15	1.0-3.0	1.5-2.5
	8-18	18-27	1.45-1.55	4.00-14.00	0.03-0.13	1.0-3.0	1.0-1.2
	18-38	18-27	1.45-1.55	4.00-14.00	0.03-0.13	1.0-3.0	0.3-0.7
	38-60	18-27	1.45-1.55	4.00-14.00	0.03-0.13	1.0-3.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
700: Los Gatos-----	0-1	---	1.20-1.30	14.00-42.00	---	---	60-80
	1-6	5-15	1.45-1.65	4.00-42.00	0.17-0.21	1.0-3.0	1.0-3.0
	6-10	5-15	1.45-1.65	4.00-42.00	0.11-0.21	1.0-3.0	0.8-1.2
	10-16	15-35	1.40-1.65	1.40-14.00	0.13-0.18	1.0-3.0	0.5-0.9
	16-24	15-35	1.40-1.65	1.40-14.00	0.08-0.16	3.0-6.0	0.2-0.4
	24-29	15-35	1.40-1.65	1.40-4.00	0.03-0.11	1.0-3.0	0.1-0.2
	29-39	---	---	0.00-0.01	---	---	---
720: Friant-----	0-1	10-18	1.45-1.60	4.00-14.00	0.03-0.07	0.0-2.0	1.0-3.0
	1-8	15-25	1.45-1.55	4.00-14.00	0.04-0.08	1.0-3.0	1.0-1.5
	8-18	---	---	0.00-0.10	---	---	---
Geghus-----	0-2	12-25	1.45-1.60	4.00-14.00	0.18-0.24	1.0-3.0	2.0-4.0
	2-6	12-25	1.45-1.55	4.00-14.00	0.12-0.24	1.0-3.0	1.5-3.0
	6-15	12-40	1.40-1.55	4.00-14.00	0.16-0.24	1.0-3.0	1.0-1.5
	15-29	20-40	1.40-1.55	1.40-14.00	0.16-0.22	3.0-6.0	0.5-1.0
	29-44	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.3-0.7
	44-54	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.2-0.3
	54-62	20-40	1.40-1.55	1.40-14.00	0.13-0.22	3.0-6.0	0.1-0.3
Lithic Xerorthents, thermic--	0-6	8-18	1.50-1.60	14.00-42.00	0.09-0.13	0.0-2.0	0.5-1.0
	6-12	---	---	0.00-0.10	---	---	---
724: Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
725: Sodic Haplocambids, thick----	0-3	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	1.0-1.8
	3-12	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	0.5-1.0
	12-18	7-18	1.45-1.55	4.00-42.00	0.07-0.13	1.0-3.0	0.2-0.8
	18-24	7-50	1.45-1.55	1.40-14.00	0.07-0.15	1.0-3.0	0.2-0.6
	24-27	8-50	1.50-1.60	1.40-42.00	0.08-0.13	1.0-3.0	0.1-0.5
	27-42	10-50	1.40-1.50	0.40-14.00	0.06-0.13	6.0-9.0	0.1-0.2
	42-54	15-50	1.45-1.55	1.40-14.00	0.06-0.15	3.0-6.0	0.0-0.1
	54-61	15-50	1.45-1.55	4.00-14.00	0.08-0.12	3.0-6.0	0.0-0.1
726: Sodic Haplocambids, thick----	0-3	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	1.0-1.8
	3-12	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	0.5-1.0
	12-18	7-18	1.45-1.55	4.00-42.00	0.07-0.13	1.0-3.0	0.2-0.8
	18-24	7-50	1.45-1.55	1.40-14.00	0.07-0.15	1.0-3.0	0.2-0.6
	24-27	8-50	1.50-1.60	1.40-42.00	0.08-0.13	1.0-3.0	0.1-0.5
	27-42	40-50	1.40-1.50	0.40-14.00	0.06-0.13	6.0-9.0	0.1-0.2
	42-54	25-50	1.45-1.55	1.40-14.00	0.06-0.15	3.0-6.0	0.0-0.1
	54-61	28-50	1.45-1.55	4.00-14.00	0.08-0.12	3.0-6.0	0.0-0.1

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
727: Sodic Haplocambids, thick----	0-3	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	1.0-1.8
	3-12	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	0.5-1.0
	12-18	7-18	1.45-1.55	4.00-42.00	0.07-0.13	1.0-3.0	0.2-0.8
	18-24	7-50	1.45-1.55	1.40-14.00	0.07-0.15	1.0-3.0	0.2-0.6
	24-27	8-50	1.50-1.60	1.40-42.00	0.08-0.13	1.0-3.0	0.1-0.5
	27-42	10-50	1.40-1.50	0.40-14.00	0.06-0.13	6.0-9.0	0.1-0.2
	42-54	15-50	1.45-1.55	1.40-14.00	0.06-0.15	3.0-6.0	0.0-0.1
	54-61	15-50	1.45-1.55	4.00-14.00	0.08-0.12	3.0-6.0	0.0-0.1
728: Torriorthents, very thin-----	0-7	10-35	1.40-1.55	1.40-14.00	0.06-0.15	3.0-6.0	0.4-1.0
	7-16	28-45	1.40-1.55	1.40-4.00	0.06-0.13	3.0-6.0	0.2-0.4
	16-23	28-45	1.40-1.55	1.40-4.00	0.04-0.14	3.0-6.0	0.1-0.3
	23-33	28-45	1.40-1.55	1.40-4.00	0.04-0.14	3.0-6.0	0.1-0.2
	33-60	---	---	0.10-1.00	---	---	---
729: Sodic Haplocambids, thick----	0-3	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	1.0-1.8
	3-12	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	0.5-1.0
	12-18	7-18	1.45-1.55	4.00-42.00	0.07-0.13	1.0-3.0	0.2-0.8
	18-24	7-50	1.45-1.55	1.40-14.00	0.07-0.15	1.0-3.0	0.2-0.6
	24-27	8-50	1.50-1.60	1.40-42.00	0.08-0.13	1.0-3.0	0.1-0.5
	27-42	10-50	1.40-1.50	0.40-14.00	0.06-0.13	6.0-9.0	0.1-0.2
	42-54	15-50	1.45-1.55	1.40-14.00	0.06-0.15	3.0-6.0	0.0-0.1
	54-61	15-50	1.45-1.55	4.00-14.00	0.08-0.12	3.0-6.0	0.0-0.1
Torriorthents, thin-----	0-2	15-27	1.45-1.60	4.00-14.00	0.13-0.22	1.0-3.0	0.5-1.2
	2-9	15-27	1.45-1.60	4.00-14.00	0.13-0.22	1.0-3.0	0.6-1.0
	9-17	6-50	1.45-1.60	0.04-14.00	0.06-0.12	3.0-6.0	0.3-0.6
	17-28	6-50	1.45-1.60	0.04-14.00	0.06-0.12	3.0-6.0	0.2-0.5
	28-38	6-50	1.45-1.60	0.04-14.00	0.06-0.12	1.0-3.0	0.1-0.4
	38-41	6-50	1.45-1.60	0.04-14.00	0.06-0.11	6.0-9.0	0.1-0.3
	41-60	6-50	1.45-1.60	0.04-14.00	0.06-0.11	6.0-9.0	0.1-0.2
Torriorthents, very thin, eroded-----	0-7	10-35	1.40-1.55	1.40-14.00	0.06-0.15	3.0-6.0	0.4-1.0
	7-16	28-45	1.40-1.55	1.40-4.00	0.06-0.13	3.0-6.0	0.2-0.4
	16-23	28-45	1.40-1.55	1.40-4.00	0.04-0.14	3.0-6.0	0.1-0.3
	23-33	28-45	1.40-1.55	1.40-4.00	0.04-0.14	3.0-6.0	0.1-0.2
	33-60	---	---	0.00-1.00	---	---	---
730: Haplocambids, thick-----	0-1	15-27	1.45-1.60	4.00-14.00	0.12-0.22	1.0-3.0	0.5-1.2
	1-5	15-27	1.45-1.60	4.00-14.00	0.12-0.22	1.0-3.0	0.6-1.0
	5-16	15-30	1.45-1.60	1.40-14.00	0.12-0.22	3.0-6.0	0.3-0.6
	16-20	15-30	1.45-1.60	1.40-14.00	0.08-0.13	3.0-6.0	0.2-0.5
	20-26	15-30	1.45-1.60	1.40-14.00	0.05-0.11	1.0-3.0	0.1-0.4
	26-33	15-30	1.45-1.60	1.40-14.00	0.05-0.11	1.0-3.0	0.1-0.3
	33-54	15-30	1.45-1.60	1.40-14.00	0.05-0.11	1.0-3.0	0.1-0.2
	54-60	15-30	1.45-1.60	1.40-14.00	0.03-0.11	1.0-3.0	0.0-0.1
Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
731:							
Haplocambids, thick-----	0-1	15-27	1.45-1.60	4.00-14.00	0.12-0.22	1.0-3.0	0.5-1.2
	1-5	15-27	1.45-1.60	4.00-14.00	0.12-0.22	1.0-3.0	0.6-1.0
	5-16	15-30	1.45-1.60	1.40-14.00	0.12-0.22	3.0-6.0	0.3-0.6
	16-20	15-30	1.45-1.60	1.40-14.00	0.08-0.13	3.0-6.0	0.2-0.5
	20-26	15-30	1.45-1.60	1.40-14.00	0.05-0.11	1.0-3.0	0.1-0.4
	26-33	15-30	1.45-1.60	1.40-14.00	0.05-0.11	1.0-3.0	0.1-0.3
	33-54	15-30	1.45-1.60	1.40-14.00	0.05-0.11	1.0-3.0	0.1-0.2
	54-60	15-30	1.45-1.60	1.40-14.00	0.03-0.11	1.0-3.0	0.0-0.1
Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
732:							
Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
Haplocambids, thick-----	0-1	15-27	1.45-1.60	4.00-14.00	0.12-0.22	1.0-3.0	0.5-1.2
	1-5	15-27	1.45-1.60	4.00-14.00	0.12-0.22	1.0-3.0	0.6-1.0
	5-16	15-30	1.45-1.60	1.40-14.00	0.12-0.22	3.0-6.0	0.3-0.6
	16-20	15-30	1.45-1.60	1.40-14.00	0.08-0.13	3.0-6.0	0.2-0.5
	20-26	15-30	1.45-1.60	1.40-14.00	0.05-0.11	1.0-3.0	0.1-0.4
	26-33	15-30	1.45-1.60	1.40-14.00	0.05-0.11	1.0-3.0	0.1-0.3
	33-54	15-30	1.45-1.60	1.40-14.00	0.05-0.11	1.0-3.0	0.1-0.2
	54-60	15-30	1.45-1.60	1.40-14.00	0.03-0.11	1.0-3.0	0.0-0.1
733:							
Sodic Haplocambids, thick----	0-3	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	1.0-1.8
	3-12	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	0.5-1.0
	12-18	7-18	1.45-1.55	4.00-42.00	0.07-0.13	1.0-3.0	0.2-0.8
	18-24	7-50	1.45-1.55	1.40-14.00	0.07-0.15	1.0-3.0	0.2-0.6
	24-27	8-50	1.50-1.60	1.40-42.00	0.08-0.13	1.0-3.0	0.1-0.5
	27-42	10-50	1.40-1.50	0.40-14.00	0.06-0.13	6.0-9.0	0.1-0.2
	42-54	15-50	1.45-1.55	1.40-14.00	0.06-0.15	3.0-6.0	0.0-0.1
	54-61	15-50	1.45-1.55	4.00-14.00	0.08-0.12	3.0-6.0	0.0-0.1
Torriorthents, thin-----	0-2	15-27	1.45-1.60	4.00-14.00	0.13-0.22	1.0-3.0	0.5-1.2
	2-9	15-27	1.45-1.60	4.00-14.00	0.13-0.22	1.0-3.0	0.6-1.0
	9-17	6-50	1.45-1.60	0.04-14.00	0.06-0.12	3.0-6.0	0.3-0.6
	17-28	6-50	1.45-1.60	0.04-14.00	0.06-0.12	3.0-6.0	0.2-0.5
	28-38	6-50	1.45-1.60	0.04-14.00	0.06-0.12	1.0-3.0	0.1-0.4
	38-41	6-50	1.45-1.60	0.04-14.00	0.06-0.11	6.0-9.0	0.1-0.3
	41-60	6-50	1.45-1.60	0.04-14.00	0.06-0.11	6.0-9.0	0.1-0.2
734:							
Sodic Haplocambids, thick----	0-3	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	1.0-1.8
	3-12	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	0.5-1.0
	12-18	7-18	1.45-1.55	4.00-42.00	0.07-0.13	1.0-3.0	0.2-0.8
	18-24	7-50	1.45-1.55	1.40-14.00	0.07-0.15	1.0-3.0	0.2-0.6
	24-27	8-50	1.50-1.60	1.40-42.00	0.08-0.13	1.0-3.0	0.1-0.5
	27-42	10-50	1.40-1.50	0.40-14.00	0.06-0.13	6.0-9.0	0.1-0.2
	42-54	15-50	1.45-1.55	1.40-14.00	0.06-0.15	3.0-6.0	0.0-0.1
	54-61	15-50	1.45-1.55	4.00-14.00	0.08-0.12	3.0-6.0	0.0-0.1

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
734: Torriorthents, very thin, eroded-----	0-1	10-35	1.40-1.55	1.40-14.00	0.06-0.15	3.0-6.0	0.4-1.0
	1-16	28-45	1.40-1.55	1.40-4.00	0.06-0.13	3.0-6.0	0.2-0.4
	16-23	28-45	1.40-1.55	1.40-4.00	0.04-0.14	3.0-6.0	0.1-0.3
	23-33	28-45	1.40-1.55	1.40-4.00	0.04-0.14	3.0-6.0	0.1-0.2
	33-60	---	---	0.00-0.01	---	---	---
Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
735: Sodic Haplocambids, thick----	0-3	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	1.0-1.8
	3-12	7-18	1.45-1.55	4.00-42.00	0.12-0.22	1.0-3.0	0.5-1.0
	12-18	7-18	1.45-1.55	4.00-42.00	0.07-0.13	1.0-3.0	0.2-0.8
	18-24	7-50	1.45-1.55	1.40-14.00	0.07-0.15	1.0-3.0	0.2-0.6
	24-27	8-50	1.50-1.60	1.40-42.00	0.08-0.13	1.0-3.0	0.1-0.5
	27-42	40-50	1.40-1.50	0.40-14.00	0.06-0.13	6.0-9.0	0.1-0.2
	42-54	25-50	1.45-1.55	1.40-14.00	0.06-0.15	3.0-6.0	0.0-0.1
	54-61	28-50	1.45-1.55	4.00-14.00	0.08-0.12	3.0-6.0	0.0-0.1
Elkhills-----	0-4	7-18	1.50-1.60	14.00-42.00	0.13-0.15	1.0-3.0	1.0-1.8
	4-10	7-18	1.50-1.60	14.00-42.00	0.11-0.15	1.0-3.0	0.5-1.0
	10-27	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.8
	27-34	7-18	1.50-1.60	14.00-42.00	0.10-0.14	1.0-3.0	0.2-0.6
	34-52	7-18	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.5
	52-65	3-10	1.55-1.65	14.00-42.00	0.07-0.12	1.0-3.0	0.1-0.2
Torriorthents, thin-----	0-2	15-27	1.45-1.60	4.00-14.00	0.13-0.22	1.0-3.0	0.5-1.2
	2-9	15-27	1.45-1.60	4.00-14.00	0.13-0.22	1.0-3.0	0.6-1.0
	9-17	6-50	1.45-1.60	0.04-14.00	0.06-0.12	3.0-6.0	0.3-0.6
	17-28	6-50	1.45-1.60	0.04-14.00	0.06-0.12	3.0-6.0	0.2-0.5
	28-38	6-50	1.45-1.60	0.04-14.00	0.06-0.12	1.0-3.0	0.1-0.4
	38-41	6-50	1.45-1.60	0.04-14.00	0.06-0.11	6.0-9.0	0.1-0.3
	41-60	6-50	1.45-1.60	0.04-14.00	0.06-0.11	6.0-9.0	0.1-0.2
750: Ballinger-----	0-3	40-60	1.20-1.30	0.42-1.40	0.12-0.14	9.0-12.0	0.5-1.5
	3-15	40-60	1.20-1.30	0.42-1.40	0.12-0.14	3.0-6.0	0.5-1.0
	15-23	40-60	1.20-1.30	0.42-1.40	0.11-0.13	3.0-6.0	0.1-0.3
	23-36	40-60	1.20-1.30	0.42-1.40	0.11-0.13	3.0-6.0	0.1-0.2
	36-46	---	---	0.10-1.00	---	---	---
760: Ballinger-----	0-3	40-60	1.20-1.30	0.42-1.40	0.12-0.14	9.0-12.0	0.5-1.5
	3-15	40-60	1.20-1.30	0.42-1.40	0.12-0.14	3.0-6.0	0.5-1.0
	15-23	40-60	1.20-1.30	0.42-1.40	0.11-0.13	3.0-6.0	0.1-0.3
	23-36	40-60	1.20-1.30	0.42-1.40	0.11-0.13	3.0-6.0	0.1-0.2
	36-46	---	---	0.10-1.00	---	---	---
780: Stutzville-----	0-1	15-35	1.45-1.60	1.40-4.00	0.17-0.23	3.0-6.0	0.5-1.2
	1-7	15-35	1.45-1.60	1.40-14.00	0.12-0.16	3.0-6.0	0.4-0.6
	7-35	15-35	1.45-1.60	1.40-14.00	0.11-0.15	3.0-6.0	0.3-0.5
	35-48	15-50	1.40-1.60	0.40-1.40	0.07-0.15	6.0-9.0	0.2-0.4
	48-66	15-50	1.40-1.60	0.40-1.40	0.07-0.15	6.0-9.0	0.1-0.3
	66-72	5-18	1.60-1.70	4.00-282.00	0.03-0.13	1.0-3.0	0.1-0.2

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
850: Xerofluvents-----	0-4	8-18	1.55-1.65	4.00-14.00	0.08-0.12	0.0-2.0	0.7-1.5
	4-19	2-18	1.55-1.65	42.00-282.00	0.02-0.10	0.0-2.0	0.6-0.9
	19-31	2-18	1.55-1.65	42.00-282.00	0.04-0.11	0.0-2.0	0.1-0.8
	31-40	2-18	1.55-1.65	42.00-282.00	0.02-0.09	0.0-2.0	0.1-0.9
	40-53	2-18	1.55-1.65	42.00-282.00	0.03-0.10	0.0-2.0	0.1-0.5
	53-62	2-18	1.55-1.65	14.00-42.00	0.03-0.10	0.0-2.0	0.1-0.6
860: Hawk-----	0-2	---	---	42.00-141.00	0.01-0.01	---	50-90
	2-7	8-18	1.50-1.60	14.00-42.00	0.06-0.13	1.0-3.0	2.0-4.0
	7-17	8-18	1.50-1.60	14.00-42.00	0.05-0.12	1.0-3.0	1.5-3.0
	17-39	8-18	1.50-1.60	14.00-42.00	0.05-0.12	1.0-3.0	1.0-1.5
	39-60	8-18	1.50-1.60	14.00-42.00	0.05-0.11	1.0-3.0	0.1-0.5
870: Frazier-----	0-4	8-18	1.50-1.60	14.00-42.00	0.06-0.08	1.0-3.0	0.1-1.8
	4-12	8-18	1.50-1.60	14.00-42.00	0.03-0.05	1.0-3.0	0.2-0.8
	12-23	8-18	1.50-1.60	14.00-42.00	0.03-0.05	1.0-3.0	0.1-0.3
	23-33	---	---	0.00-0.10	---	---	---
880: Chuchupate-----	0-1	---	---	42.00-141.00	0.00-0.00	---	20-40
	1-10	5-20	1.50-1.60	4.00-42.00	0.08-0.13	1.0-3.0	3.0-5.0
	10-21	5-20	1.50-1.60	4.00-42.00	0.05-0.11	1.0-3.0	0.5-2.0
	21-36	5-20	1.50-1.60	4.00-42.00	0.05-0.11	1.0-3.0	0.1-0.2
	36-46	---	---	0.00-0.10	---	---	---
890: Gorman-----	0-7	10-20	1.45-1.60	4.00-14.00	0.11-0.15	0.0-2.0	2.0-4.0
	7-15	10-20	1.45-1.60	4.00-14.00	0.11-0.15	1.0-3.0	1.0-3.0
	15-23	10-27	1.45-1.60	4.00-14.00	0.14-0.19	3.0-5.0	1.0-1.5
	23-37	20-35	1.45-1.55	4.00-14.00	0.14-0.18	3.0-6.0	0.5-1.0
	37-48	20-35	1.45-1.55	4.00-14.00	0.13-0.17	3.0-6.0	0.3-0.7
	48-61	20-35	1.40-1.50	1.40-4.00	0.12-0.16	3.0-6.0	0.1-0.3
919: Zonap-----	0-3	10-18	1.50-1.60	4.00-14.00	0.10-0.18	1.0-3.0	0.8-1.5
	3-10	10-18	1.50-1.60	4.00-14.00	0.11-0.18	1.0-3.0	0.3-0.7
	10-26	10-18	1.50-1.60	4.00-14.00	0.06-0.17	1.0-3.0	0.1-0.2
	26-36	---	---	0.10-1.00	---	---	---
Harrisranch-----	0-3	10-18	1.50-1.60	4.00-14.00	0.13-0.15	1.0-3.0	1.0-3.0
	3-23	10-18	1.50-1.60	4.00-14.00	0.12-0.14	1.0-3.0	1.0-1.5
	23-43	10-18	1.50-1.60	4.00-14.00	0.12-0.14	1.0-3.0	0.5-1.0
	43-65	10-18	1.50-1.60	4.00-14.00	0.11-0.13	1.0-3.0	0.2-0.8
Beam-----	0-3	8-18	1.50-1.60	14.00-42.00	0.08-0.15	1.0-3.0	0.5-1.0
	3-15	8-18	1.50-1.60	14.00-42.00	0.08-0.15	1.0-3.0	0.2-0.7
	15-25	---	---	4.00-14.00	---	---	---
930: Bitcreek-----	0-3	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	2.0-4.0
	3-8	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	1.0-2.0
	8-19	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	19-31	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	31-38	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	0.1-0.5
	38-60	19-55	1.35-1.55	0.04-14.00	0.07-0.19	6.0-9.0	0.1-0.3

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
930:							
Shimmon-----	0-1	20-30	1.40-1.55	1.40-14.00	0.14-0.21	3.0-6.0	2.0-4.0
	1-5	20-30	1.40-1.55	1.40-14.00	0.14-0.21	3.0-6.0	1.0-3.0
	5-11	20-35	1.40-1.55	1.40-14.00	0.14-0.21	3.0-6.0	1.0-1.5
	11-15	20-35	1.40-1.55	1.40-14.00	0.12-0.18	3.0-6.0	0.2-0.4
	15-21	20-35	1.40-1.55	1.40-14.00	0.10-0.16	3.0-6.0	0.1-0.2
	21-31	---	---	0.00-1.00	---	---	---
Balhud-----	0-3	18-27	1.45-1.55	4.00-14.00	0.17-0.21	2.0-4.0	1.0-2.0
	3-10	28-40	1.45-1.55	1.40-4.00	0.14-0.18	4.0-6.0	1.0-1.5
	10-18	---	---	0.00-1.00	---	---	---
	18-28	---	---	0.00-0.10	---	---	---
932:							
Bitcreek-----	0-3	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	2.0-4.0
	3-8	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	1.0-2.0
	8-19	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	19-31	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	31-38	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	0.1-0.5
	38-60	19-55	1.35-1.55	0.04-14.00	0.07-0.19	6.0-9.0	0.1-0.3
Shimmon-----	0-1	20-30	1.40-1.55	1.40-14.00	0.14-0.21	3.0-6.0	2.0-4.0
	1-5	20-30	1.40-1.55	1.40-14.00	0.14-0.21	3.0-6.0	1.0-3.0
	5-11	20-35	1.40-1.55	1.40-14.00	0.14-0.21	3.0-6.0	1.0-1.5
	11-15	20-35	1.40-1.55	1.40-14.00	0.12-0.18	3.0-6.0	0.2-0.4
	15-21	20-35	1.40-1.55	1.40-14.00	0.10-0.16	3.0-6.0	0.1-0.2
	21-31	---	---	0.00-0.50	---	---	---
Balhud-----	0-3	18-27	1.45-1.55	4.00-14.00	0.17-0.21	2.0-4.0	1.0-2.0
	3-10	28-40	1.45-1.55	1.40-4.00	0.14-0.18	4.0-6.0	1.0-1.5
	10-18	---	---	0.00-0.01	---	---	---
	18-28	---	---	0.00-0.10	---	---	---
940:							
Bitcreek-----	0-3	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	2.0-4.0
	3-8	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	1.0-2.0
	8-19	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	19-31	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	31-38	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	0.1-0.5
	38-60	19-55	1.35-1.55	0.04-14.00	0.07-0.19	6.0-9.0	0.1-0.3
950:							
Pleito-----	0-4	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	2.0-3.0
	4-8	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.0-1.5
	8-18	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	1.1-1.5
	18-25	10-25	1.40-1.70	4.00-14.00	0.06-0.10	3.0-6.0	1.0-1.3
	25-32	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.3-0.7
	32-46	10-25	1.40-1.70	4.00-14.00	0.05-0.10	1.0-3.0	0.1-0.3
	46-56	10-25	1.40-1.70	4.00-14.00	0.06-0.10	1.0-3.0	0.1-0.3
	56-64	10-25	1.40-1.70	4.00-14.00	0.06-0.11	1.0-3.0	0.1-0.3
	64-80	10-25	1.40-1.70	4.00-42.00	0.05-0.09	1.0-3.0	0.1-0.2
Ballinger-----	0-3	40-60	1.20-1.30	0.42-1.40	0.12-0.14	9.0-12.0	0.5-1.5
	3-15	40-60	1.20-1.30	0.42-1.40	0.12-0.14	3.0-6.0	0.5-1.0
	15-23	40-60	1.20-1.30	0.42-1.40	0.11-0.13	3.0-6.0	0.1-0.3
	23-36	40-60	1.20-1.30	0.42-1.40	0.11-0.13	3.0-6.0	0.1-0.2
	36-46	---	---	0.00-1.00	---	---	---
Balhud-----	0-3	18-27	1.45-1.55	4.00-14.00	0.17-0.21	2.0-4.0	1.0-2.0
	3-10	28-40	1.45-1.55	1.40-4.00	0.14-0.18	4.0-6.0	1.0-1.5
	10-18	---	---	0.00-0.01	---	---	---
	18-28	---	---	0.00-0.10	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	g/cc	µm/sec	In/in	Pct	Pct
951:							
Bitcreek-----	0-3	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	2.0-4.0
	3-8	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	1.0-2.0
	8-19	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	19-31	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	31-38	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	0.1-0.5
	38-60	19-55	1.35-1.55	0.04-14.00	0.07-0.19	6.0-9.0	0.1-0.3
Balhud-----	0-3	18-27	1.45-1.55	4.00-14.00	0.17-0.21	2.0-4.0	1.0-2.0
	3-10	28-40	1.45-1.55	1.40-4.00	0.14-0.18	4.0-6.0	1.0-1.5
	10-18	---	---	0.00-0.50	---	---	---
	18-28	---	---	0.00-0.10	---	---	---
Ballinger-----	0-3	40-60	1.20-1.30	0.42-1.40	0.12-0.14	9.0-12.0	0.5-1.5
	3-15	40-60	1.20-1.30	0.42-1.40	0.12-0.14	3.0-6.0	0.5-1.0
	15-23	40-60	1.20-1.30	0.42-1.40	0.11-0.13	3.0-6.0	0.1-0.3
	23-36	40-60	1.20-1.30	0.42-1.40	0.11-0.13	3.0-6.0	0.1-0.2
	36-46	---	---	0.00-0.10	---	---	---
954:							
Typic Haploxeralfs, fine----	0-1	27-55	1.40-1.50	0.40-4.00	0.09-0.18	3.0-6.0	1.0-2.0
	1-12	27-55	1.40-1.50	0.40-1.40	0.08-0.18	3.0-6.0	0.5-1.0
	12-19	27-55	1.40-1.50	0.40-1.40	0.02-0.14	3.0-6.0	0.2-0.4
	19-24	27-55	1.40-1.50	0.40-1.40	0.04-0.16	6.0-9.0	0.1-0.2
	24-34	---	---	0.10-1.00	---	---	---
Haploxerolls, coarse-loamy---	0-4	10-17	1.50-1.60	4.00-14.00	0.09-0.15	0.0-2.0	2.0-4.0
	4-17	10-17	1.50-1.60	4.00-14.00	0.03-0.15	0.0-2.0	1.0-1.2
	17-34	10-17	1.50-1.60	4.00-14.00	0.00-0.14	0.0-2.0	0.1-0.3
	34-44	---	---	0.00-0.10	---	---	---
955:							
Calcic Haploxerepts-----	0-4	20-35	1.40-1.50	1.40-14.00	0.14-0.23	3.0-6.0	1.0-3.0
	4-9	20-35	1.40-1.50	1.40-14.00	0.14-0.23	3.0-6.0	0.7-2.0
	9-18	20-35	1.40-1.50	1.40-14.00	0.10-0.20	3.0-6.0	0.6-0.8
	18-25	20-35	1.40-1.50	1.40-14.00	0.12-0.20	3.0-6.0	0.3-0.5
	25-37	20-35	1.40-1.50	1.40-14.00	0.12-0.20	3.0-6.0	0.1-0.3
	37-60	20-35	1.40-1.50	1.40-14.00	0.11-0.20	3.0-6.0	0.1-0.2
Xerorthents, shallow-----	0-8	20-34	1.50-1.60	4.00-14.00	0.13-0.15	0.0-2.0	0.5-0.7
	8-13	5-19	1.50-1.60	4.00-42.00	0.10-0.15	0.0-2.0	0.1-0.2
	13-23	---	---	0.00-0.10	---	---	---
Badlands.							
970:							
Harrisranch-----	0-3	10-18	1.50-1.60	4.00-14.00	0.13-0.15	1.0-3.0	1.0-3.0
	3-23	10-18	1.50-1.60	4.00-14.00	0.12-0.14	1.0-3.0	1.0-1.5
	23-43	10-18	1.50-1.60	4.00-14.00	0.12-0.14	1.0-3.0	0.5-1.0
	43-65	10-18	1.50-1.60	4.00-14.00	0.11-0.13	1.0-3.0	0.2-0.8
Bitcreek-----	0-3	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	2.0-4.0
	3-8	19-35	1.45-1.55	4.00-14.00	0.15-0.22	3.0-6.0	1.0-2.0
	8-19	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	19-31	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	1.0-1.5
	31-38	19-35	1.45-1.55	4.00-14.00	0.13-0.19	3.0-6.0	0.1-0.5
	38-60	19-55	1.35-1.55	0.04-14.00	0.07-0.19	6.0-9.0	0.1-0.3

Soil Survey of Kern County, California, Southwest Part

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter
	<i>In</i>	<i>Pct</i>	<i>g/cc</i>	$\mu\text{m}/\text{sec}$	<i>In/in</i>	<i>Pct</i>	<i>Pct</i>
980: Area not surveyed, access denied.							
W: Water.							

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils

[Entries under "Erosion factors" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer]

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
101: Bakersfield, drained-----	0-3	.24	.24	5	3	86
	3-10	.24	.24			
	10-16	.24	.24			
	16-29	.28	.28			
	29-45	.37	.37			
	45-51	.37	.37			
	51-58	.49	.49			
	58-66	.17	.17			
102: Bakersfield, partially drained-----	0-3	.24	.24	5	3	86
	3-10	.24	.24			
	10-16	.24	.24			
	16-29	.28	.28			
	29-45	.37	.37			
	45-51	.37	.37			
	51-58	.49	.49			
	58-66	.17	.17			
110: Buttonwillow, partially drained-----	0-8	.24	.24	5	4	86
	8-24	.24	.24			
	24-30	.28	.28			
	30-36	.32	.32			
	36-43	.32	.32			
	43-60	.37	.37			
	60-67	.32	.32			
	67-70	.55	.55			
120: Granoso-----	0-10	.17	.17	5	2	134
	10-20	.15	.15			
	20-36	.10	.10			
	36-62	.05	.05			
121: Granoso-----	0-10	.17	.17	5	2	134
	10-20	.15	.15			
	20-36	.24	.24			
	36-62	.05	.05			
122: Granoso, loamy substratum-----	0-10	.17	.17	5	2	134
	10-20	.15	.15			
	20-36	.10	.10			
	36-62	.64	.64			
123: Granoso-----	0-10	.28	.28	5	3	86
	10-20	.17	.17			
	20-36	.10	.10			
	36-62	.05	.05			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
124: Granoso-----	0-10	.10	.17	5	2	134
	10-20	.10	.15			
	20-36	.15	.24			
	36-62	.05	.05			
130: Cerini-----	0-10	.24	.24	5	3	86
	10-17	.37	.37			
	17-24	.37	.37			
	24-47	.43	.43			
	47-69	.43	.43			
131: Calflax-----	0-6	.28	.28	5	3	86
	6-21	.32	.32			
	21-30	.43	.43			
	30-37	.43	.43			
	37-46	.32	.32			
	46-52	.43	.43			
	52-60	.43	.43			
132: Cerini-----	0-10	.32	.32	5	6	48
	10-17	.37	.37			
	17-24	.37	.37			
	24-47	.43	.43			
	47-69	.43	.43			
133: Calflax-----	0-6	.37	.37	5	6	48
	6-21	.32	.32			
	21-30	.32	.32			
	30-37	.32	.32			
	37-46	.28	.28			
	46-52	.43	.43			
	52-60	.43	.43			
134: Cerini-----	0-10	.32	.32	5	6	48
	10-17	.37	.37			
	17-24	.37	.37			
	24-47	.43	.43			
	47-69	.43	.43			
140: Copus silty clay, partially drained--	0-5	.17	.17	5	4	86
	5-17	.24	.24			
	17-23	.17	.17			
	23-39	.17	.17			
	39-51	.20	.20			
	51-60	.20	.20			
141: Copus clay, partially drained-----	0-5	.10	.10	5	4	86
	5-17	.20	.20			
	17-23	.20	.20			
	23-39	.20	.20			
	39-51	.20	.20			
	51-60	.20	.20			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
150: Excelsior-----	0-8	.32	.32	5	3	86
	8-19	.37	.37			
	19-25	.37	.37			
	25-36	.43	.43			
	36-41	.28	.28			
	41-48	.43	.43			
	48-62	.43	.43			
151: Excelsior, saline-sodic-----	0-8	.37	.37	5	3	86
	8-19	.37	.37			
	19-25	.37	.37			
	25-36	.43	.43			
	36-41	.28	.28			
	41-48	.43	.43			
	48-62	.43	.43			
152: Excelsior-----	0-8	.43	.43	5	5	56
	8-19	.43	.43			
	19-25	.37	.37			
	25-36	.43	.43			
	36-41	.28	.28			
	41-48	.43	.43			
	48-62	.43	.43			
153: Tupman-----	0-6	.10	.24	5	5	56
	6-14	.24	.24			
	14-30	.10	.20			
	30-37	.28	.28			
	37-48	.28	.28			
	48-60	.10	.15			
154: Tupman-----	0-6	.10	.24	5	5	56
	6-14	.24	.24			
	14-30	.10	.20			
	30-37	.28	.28			
	37-48	.28	.28			
	48-60	.10	.15			
Urban land.						
160: Fages-----	0-7	.28	.28	5	4	86
	7-22	.28	.28			
	22-30	.28	.28			
	30-48	.24	.24			
	48-56	.37	.37			
	56-58	.43	.43			
	58-65	.32	.32			
179: Padres-----	0-3	.24	.24	5	3	86
	3-16	.24	.24			
	16-30	.10	.24			
	30-38	.43	.43			
	38-46	.24	.24			
	46-62	.10	.20			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
180: Garces-----	0-7	.37	.37	3	6	48
	7-14	.32	.32			
	14-24	.32	.32			
	24-37	.43	.43			
	37-55	.28	.28			
	55-64	.28	.28			
190: Guijarral-----	0-1	.24	.24	4	3	86
	1-4	.20	.20			
	4-16	.28	.28			
	16-29	.15	.24			
	29-40	.17	.32			
	40-46	.17	.32			
	46-51	.10	.24			
	51-60	.10	.24			
191: Guijarral-----	0-1	.24	.24	4	3	86
	1-4	.20	.20			
	4-16	.28	.28			
	16-29	.15	.24			
	29-40	.17	.32			
	40-46	.17	.32			
	46-51	.10	.24			
	51-60	.10	.24			
192: Guijarral-----	0-1	.24	.24	4	3	86
	1-4	.20	.20			
	4-16	.28	.28			
	16-29	.15	.24			
	29-40	.17	.32			
	40-46	.17	.32			
	46-51	.10	.24			
	51-60	.10	.24			
Klipstein-----	0-5	.20	.20	5	3	86
	5-23	.02	.24			
	23-30	.05	.24			
	30-36	.28	.28			
	36-60	.02	.20			
193: Guijarral-----	0-1	.15	.24	5	5	56
	1-4	.10	.20			
	4-16	.17	.28			
	16-29	.15	.24			
	29-40	.17	.32			
	40-46	.10	.32			
	46-51	.10	.24			
	51-60	.10	.24			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
195: Guijarral, extremely gravelly substratum-----	0-1	.15	.24	4	5	56
	1-4	.10	.20			
	4-16	.17	.28			
	16-29	.15	.24			
	29-40	.17	.32			
	40-46	.17	.32			
	46-51	.05	.24			
	51-60	.05	.24			
Guijarral-----	0-3	.15	.24	5	5	56
	3-10	.17	.28			
	10-17	.17	.28			
	17-23	.15	.24			
	23-41	.17	.28			
	41-50	.17	.32			
	50-65	.15	.24			
	65-70	.15	.24			
197: Klipstein-----	0-5	.20	.20	5	3	86
	5-23	.02	.24			
	23-30	.05	.24			
	30-36	.28	.28			
	36-60	.02	.20			
Guijarral-----	0-1	.15	.24	5	5	56
	1-4	.10	.20			
	4-16	.17	.28			
	16-29	.15	.24			
	29-40	.17	.32			
	40-46	.10	.32			
	46-51	.10	.24			
	51-60	.10	.24			
200: Hesperia-----	0-2	.10	.10	5	2	134
	2-6	.17	.17			
	6-13	.17	.17			
	13-24	.24	.24			
	24-33	.24	.24			
	33-60	.24	.24			
201: Hesperia-----	0-18	.24	.24	5	3	86
	18-34	.28	.28			
	34-70	.24	.24			
210: Kimberlina-----	0-9	.24	.24	5	3	86
	9-45	.24	.24			
	45-71	.28	.28			
211: Kimberlina-----	0-10	.28	.28	5	3	86
	10-19	.28	.28			
	19-28	.24	.24			
	28-45	.28	.28			
	45-60	.28	.28			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
212: Kimberlina, saline-sodic-----	0-9	.32	.32	3	3	86
	9-45	.32	.32			
	45-71	.28	.28			
214: Kimberlina-----	0-10	.15	.24	5	5	56
	10-19	.17	.28			
	19-28	.15	.24			
	28-45	.17	.28			
	45-60	.17	.28			
215: Kimberlina-----	0-25	.15	.24	5	5	56
	25-60	.17	.28			
216: Kimberlina, occasionally flooded----	0-10	.24	.24	5	3	86
	10-19	.24	.24			
	19-28	.24	.24			
	28-45	.28	.28			
	45-60	.28	.28			
Granoso, occasionally flooded-----	0-10	.17	.17	5	2	134
	10-20	.05	.05			
	20-36	.05	.05			
	36-62	.05	.05			
217: Kimberlina-----	0-10	.24	.24	5	3	86
	10-19	.24	.24			
	19-28	.24	.24			
	28-45	.28	.28			
	45-60	.28	.28			
Urban land.						
219: Xerorthents-----	0-12	.15	.37	2	7	38
	12-19	.20	.49			
	19-26	.10	.49			
	26-36	---	---			
Badlands.						
220: Lokern, drained-----	0-11	.20	.20	5	4	86
	11-21	.32	.32			
	21-28	.24	.24			
	28-33	.28	.28			
	33-42	.28	.28			
	42-53	.24	.24			
	53-60	.24	.24			
	60-67	.28	.28			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
221: Lokern, partially drained-----	0-11	.20	.20	5	4	86
	11-21	.32	.32			
	21-28	.24	.24			
	28-33	.28	.28			
	33-42	.28	.28			
	42-53	.24	.24			
	53-60	.24	.24			
	60-67	.28	.28			
230: Milagro-----	0-8	.10	.10	5	2	134
	8-14	.15	.15			
	14-19	.28	.28			
	19-27	.28	.28			
	27-32	.49	.49			
	32-51	.28	.28			
	51-60	.28	.28			
231: Milagro-----	0-8	.32	.32	5	3	86
	8-14	.28	.28			
	14-19	.28	.28			
	19-27	.28	.28			
	27-32	.49	.49			
	32-51	.28	.28			
	51-60	.28	.28			
240: Millox, partially drained-----	0-5	.28	.28	4	4	86
	5-19	.24	.24			
	19-35	.24	.24			
	35-53	.28	.28			
	53-60	.20	.20			
	60-65	.28	.28			
241: Millox, partially drained, nonsaline-	0-5	.28	.28	4	4	86
	5-19	.24	.24			
	19-35	.24	.24			
	35-53	.28	.28			
	53-60	.32	.32			
	60-65	.28	.28			
242: Millox, partially drained-----	0-5	.28	.28	4	4	86
	5-19	.24	.24			
	19-35	.24	.24			
	35-53	.28	.28			
	53-60	.20	.20			
	60-65	.24	.24			
Tennco-----	0-1	.43	.43	3	3	86
	1-5	.37	.37			
	5-13	.20	.20			
	13-18	.55	.55			
	18-25	.55	.55			
	25-45	.43	.43			
	45-60	.43	.43			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
243: Millox, partially drained-----	0-5	.28	.28	4	4	86
	5-19	.24	.24			
	19-35	.24	.24			
	35-53	.28	.28			
	53-60	.32	.32			
	60-65	.28	.28			
Zalvidea, partially drained-----	0-8	.24	.24	5	3	86
	8-23	.24	.24			
	23-27	.28	.28			
	27-37	.32	.32			
	37-52	.28	.28			
	52-65	.15	.15			
	65-69	.49	.49			
246: Whitewolf-----	0-11	.24	.24	5	3	86
	11-65	.20	.20			
250: Oldriver-----	0-11	.24	.24	5	6	48
	11-16	.43	.43			
	16-22	.24	.24			
	22-30	.43	.43			
	30-39	.37	.37			
	39-49	.43	.43			
	49-63	.32	.32			
251: Oldriver, partially drained, sodic---	0-11	.24	.24	5	6	48
	11-16	.28	.28			
	16-22	.24	.24			
	22-30	.24	.24			
	30-39	.37	.37			
	39-49	.43	.43			
	49-63	.32	.32			
260: Panoche-----	0-9	.37	.37	5	6	48
	9-23	.37	.37			
	23-39	.37	.37			
	39-60	.43	.43			
270: Pits. Dumps.						
280: Premier-----	0-16	.15	.15	5	3	86
	16-60	.24	.24			
281: Premier-----	0-16	.15	.15	5	3	86
	16-60	.24	.24			
290: Riverwash.						

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
300: Tennco-----	0-1	.43	.43	3	3	86
	1-5	.37	.37			
	5-13	.20	.20			
	13-18	.55	.55			
	18-25	.55	.55			
	25-45	.43	.43			
	45-60	.43	.43			
310: Vineland, drained-----	0-6	.24	.24	5	2	134
	6-14	.24	.24			
	14-22	.10	.10			
	22-26	.32	.32			
	26-38	.10	.10			
	38-43	.24	.24			
	43-54	.10	.10			
	54-58	.37	.37			
	58-64	.24	.24			
312: Vineland, drained-----	0-6	.24	.24	5	2	134
	6-14	.24	.24			
	14-22	.24	.24			
	22-26	.32	.32			
	26-38	.10	.10			
	38-43	.24	.24			
	43-54	.10	.10			
	54-58	.37	.37			
	58-64	.24	.24			
Bakersfield, drained-----	0-3	.24	.24	5	3	86
	3-10	.24	.24			
	10-16	.24	.24			
	16-29	.28	.28			
	29-45	.37	.37			
	45-51	.37	.37			
	51-58	.49	.49			
	58-66	.17	.17			
320: Wasco-----	0-7	.24	.24	5	3	86
	7-17	.24	.24			
	17-25	.24	.24			
	25-31	.28	.28			
	31-64	.28	.28			
330: Cuyama-----	0-5	.24	.24	4	3	86
	5-13	.43	.43			
	13-28	.43	.43			
	28-42	.10	.24			
	42-58	.05	.24			
	58-75	.02	.05			
331: Cuyama-----	0-5	.24	.24	4	3	86
	5-13	.43	.43			
	13-28	.43	.43			
	28-42	.10	.24			
	42-58	.05	.24			
	58-75	.02	.05			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
332: Cuyama-----	0-5	.24	.24	4	3	86
	5-13	.43	.43			
	13-28	.43	.43			
	28-42	.10	.24			
	42-58	.05	.24			
	58-75	.02	.05			
340: Weedpatch-----	0-8	.32	.32	5	4L	86
	8-18	.32	.32			
	18-24	.32	.32			
	24-42	.28	.28			
	42-47	.32	.32			
	47-59	.32	.32			
	59-64	.28	.28			
350: Posochanet, saline-sodic-----	0-1	.49	.49	5	5	56
	1-6	.43	.43			
	6-16	.43	.43			
	16-26	.43	.43			
	26-41	.32	.32			
	41-54	.37	.37			
	54-58	.55	.55			
	58-62	.55	.55			
351: Posochanet, saline-sodic-----	0-1	.43	.43	5	6	48
	1-6	.43	.43			
	6-16	.43	.43			
	16-26	.43	.43			
	26-41	.32	.32			
	41-54	.37	.37			
	54-58	.55	.55			
	58-62	.55	.55			
352: Posochanet-----	0-1	.49	.49	5	5	56
	1-6	.43	.43			
	6-16	.43	.43			
	16-26	.43	.43			
	26-41	.32	.32			
	41-54	.37	.37			
	54-58	.55	.55			
	58-62	.55	.55			
Posochanet, partially reclaimed-----	0-1	.49	.49	5	5	56
	1-6	.43	.43			
	6-16	.43	.43			
	16-26	.43	.43			
	26-41	.32	.32			
	41-54	.37	.37			
	54-58	.55	.55			
	58-62	.55	.55			
360: Wheelridge-----	0-7	.15	.24	4	2	134
	7-13	.10	.24			
	13-27	.15	.24			
	27-44	.10	.24			
	44-65	.02	.05			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
370: Whitewolf-----	0-11	.17	.17	5	2	134
	11-65	.20	.20			
371: Whitewolf-----	0-11	.17	.17	5	2	134
	11-65	.20	.20			
380: Zalvidea, partially drained-----	0-8	.24	.24	5	3	86
	8-23	.24	.24			
	23-27	.28	.28			
	27-37	.32	.32			
	37-52	.28	.28			
	52-65	.15	.15			
	65-69	.49	.49			
381: Zalvidea, partially drained-----	0-8	.24	.24	5	5	56
	8-23	.24	.24			
	23-27	.28	.28			
	27-37	.32	.32			
	37-52	.28	.28			
	52-65	.15	.15			
	65-69	.49	.49			
389: Xerofluvents-----	0-4	.10	.24	5	5	56
	4-19	.05	.24			
	19-31	.05	.05			
	31-40	.05	.24			
	40-53	.05	.10			
	53-62	.10	.24			
Haploxerepts-----	0-7	.15	.28	5	5	56
	7-20	.10	.24			
	20-41	.15	.28			
	41-60	.15	.24			
Riverwash.						
390: Pleito-----	0-4	.24	.24	5	5	56
	4-8	.24	.24			
	8-18	.24	.24			
	18-25	.24	.24			
	25-32	.15	.24			
	32-46	.15	.24			
	46-56	.17	.24			
	56-64	.17	.24			
	64-80	.15	.24			
391: Pleito-----	0-4	.24	.24	5	5	56
	4-8	.24	.24			
	8-18	.24	.24			
	18-25	.24	.24			
	25-32	.15	.24			
	32-46	.15	.24			
	46-56	.17	.24			
	56-64	.17	.24			
	64-80	.15	.24			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
392: Pleito-----	0-4	.24	.24	5	5	56
	4-8	.24	.24			
	8-18	.24	.24			
	18-25	.24	.24			
	25-32	.15	.24			
	32-46	.15	.24			
	46-56	.17	.24			
	56-64	.17	.24			
	64-80	.15	.24			
393: Pleito-----	0-4	.24	.24	5	5	56
	4-8	.24	.24			
	8-18	.24	.24			
	18-25	.24	.24			
	25-32	.15	.24			
	32-46	.15	.24			
	46-56	.17	.24			
	56-64	.17	.24			
	64-80	.15	.24			
394: Pleito-----	0-4	.24	.24	5	5	56
	4-8	.24	.24			
	8-18	.24	.24			
	18-25	.24	.24			
	25-32	.15	.24			
	32-46	.15	.24			
	46-56	.17	.24			
	56-64	.17	.24			
	64-80	.15	.24			
Xeric Torriorthents, very gravelly---	0-2	.15	.32	2	6	48
	2-7	.15	.37			
	7-26	.15	.43			
	26-36	---	---			
395: Pleito-----	0-4	.24	.24	5	5	56
	4-8	.24	.24			
	8-18	.24	.24			
	18-25	.24	.24			
	25-32	.15	.24			
	32-46	.15	.24			
	46-56	.17	.24			
	56-64	.17	.24			
	64-80	.15	.24			
Emidio-----	0-4	.28	.28	5	6	48
	4-16	.28	.28			
	16-32	.24	.24			
	32-41	.32	.32			
	41-49	.32	.32			
	49-65	.43	.43			
Loslobos-----	0-2	.24	.24	5	3	86
	2-14	.28	.28			
	14-25	.28	.28			
	25-41	.17	.28			
	41-54	.17	.28			
	54-60	.17	.28			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
396: Pleito-----	0-4	.24	.24	5	5	56
	4-8	.24	.24			
	8-18	.24	.24			
	18-25	.24	.24			
	25-32	.15	.24			
	32-46	.15	.24			
	46-56	.17	.24			
	56-64	.17	.24			
	64-80	.15	.24			
Loslobos-----	0-2	.24	.24	5	3	86
	2-14	.24	.24			
	14-25	.24	.24			
	25-41	.17	.28			
	41-54	.17	.28			
	54-60	.17	.28			
398: Calcic Haploxerepts-----	0-4	.32	.32	5	4L	86
	4-9	.32	.32			
	9-18	.20	.32			
	18-25	.32	.32			
	25-37	.32	.32			
	37-60	.37	.37			
Calcic Pachic Argixerolls, fine-----	0-6	.28	.28	5	6	48
	6-21	.32	.32			
	21-44	.28	.28			
	44-56	.28	.28			
	56-64	.28	.28			
Xerorthents, shallow-----	0-8	.28	.28	2	5	56
	8-13	.32	.32			
	13-23	---	---			
400: Loslobos-----	0-2	.24	.24	5	3	86
	2-14	.24	.24			
	14-25	.24	.24			
	25-41	.17	.28			
	41-54	.17	.28			
	54-60	.17	.28			
Xeric Torriorthents, very gravelly---	0-2	.15	.32	2	6	48
	2-7	.15	.37			
	7-26	.15	.43			
	26-36	---	---			
Badlands.						
401: Loslobos-----	0-2	.37	.37	5	5	56
	2-14	.24	.24			
	14-25	.24	.24			
	25-41	.17	.28			
	41-54	.17	.28			
	54-60	.17	.28			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
402: Loslobos-----	0-2	.24	.24	5	3	86
	2-14	.24	.24			
	14-25	.24	.24			
	25-41	.17	.28			
	41-54	.17	.28			
	54-60	.17	.28			
Walong-----	0-3	.10	.24	3	6	48
	3-12	.10	.24			
	12-29	.10	.28			
	29-39	---	---			
403: Loslobos-----	0-2	.24	.24	5	3	86
	2-14	.24	.24			
	14-25	.24	.24			
	25-41	.17	.28			
	41-54	.17	.28			
	54-60	.17	.28			
Calleguas-----	0-7	.37	.37	2	6	48
	7-15	.32	.32			
	15-60	---	---			
404: Loslobos, moist-----	0-2	.24	.24	5	3	86
	2-14	.24	.24			
	14-25	.24	.24			
	25-41	.17	.28			
	41-54	.17	.28			
	54-60	.17	.28			
430: Littlesignal-----	0-3	.32	.32	3	4L	86
	3-11	.37	.37			
	11-20	.28	.28			
	20-25	.55	.55			
	25-35	.64	.64			
	35-52	.64	.64			
	52-60	---	---			
Cochora-----	0-2	.49	.49	2	5	56
	2-9	.55	.55			
	9-15	.43	.43			
	15-25	---	---			
431: Littlesignal-----	0-3	.32	.32	3	4L	86
	3-11	.37	.37			
	11-20	.28	.28			
	20-25	.55	.55			
	25-35	.64	.64			
	35-52	.64	.64			
	52-60	---	---			
Cochora-----	0-2	.49	.49	2	5	56
	2-9	.55	.55			
	9-15	.43	.43			
	15-25	---	---			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
432: Littlesignal-----	0-3	.32	.32	3	4L	86
	3-11	.37	.37			
	11-20	.28	.28			
	20-25	.55	.55			
	25-35	.64	.64			
	35-52	.64	.64			
	52-60	---	---			
Badlands.						
Cochora-----	0-2	.49	.49	2	5	56
	2-9	.55	.55			
	9-15	.43	.43			
	15-25	---	---			
440: Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
Pyxo-----	0-5	.43	.43	3	5	56
	5-12	.43	.43			
	12-22	.49	.49			
	22-30	.32	.32			
	30-40	---	---			
441: Sodic Haplocambids, thick-----	0-3	.43	.43	3	5	56
	3-12	.43	.43			
	12-18	.49	.49			
	18-24	.55	.55			
	24-27	.37	.37			
	27-42	.37	.37			
	42-54	.20	.20			
	54-61	.20	.20			
442: Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
443: Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
Badlands.						

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
444: Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
445: Sodic Haplocambids, thick-----	0-3	.43	.43	3	5	56
	3-12	.43	.43			
	12-18	.49	.49			
	18-24	.55	.55			
	24-27	.37	.37			
	27-42	.37	.37			
	42-54	.20	.20			
	54-61	.20	.20			
Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
451: Beam-----	0-4	.32	.32	1	3	86
	4-15	.32	.32			
	15-25	---	---			
Panoza-----	0-6	.37	.37	2	6	48
	6-18	.43	.43			
	18-24	.43	.43			
	24-34	---	---			
Hillbrick-----	0-4	.49	.49	1	5	56
	4-15	.49	.49			
	15-25	---	---			
460: Geghus-----	0-2	.32	.32	5	5	56
	2-6	.37	.37			
	6-15	.32	.32			
	15-29	.32	.32			
	29-44	.32	.32			
	44-54	.32	.32			
	54-62	.37	.37			
Tecuya-----	0-3	.37	.55	3	6	48
	3-9	.37	.55			
	9-28	.17	.49			
	28-38	.17	.49			
	38-60	.02	.37			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
461: Geghus-----	0-2	.32	.32	5	5	56
	2-6	.37	.37			
	6-15	.32	.32			
	15-29	.32	.32			
	29-44	.32	.32			
	44-54	.32	.32			
	54-62	.37	.37			
Tecuya-----	0-3	.37	.55	3	6	48
	3-9	.37	.55			
	9-28	.17	.49			
	28-38	.17	.49			
	38-60	.02	.37			
462: Geghus-----	0-2	.32	.32	3	5	56
	2-6	.37	.37			
	6-15	.32	.32			
	15-29	.32	.32			
	29-44	.32	.32			
	44-54	.32	.32			
	54-62	.37	.37			
Xeric Torriorthents, very gravelly---	0-2	.15	.32	2	6	48
	2-7	.15	.37			
	7-26	.15	.43			
	26-36	---	---			
470: Pyxo-----	0-5	.43	.43	2	5	56
	5-12	.43	.43			
	12-22	.49	.49			
	22-30	.32	.32			
	30-40	---	---			
Cochora-----	0-2	.49	.49	1	5	56
	2-9	.49	.49			
	9-15	.37	.37			
	15-25	---	---			
471: Pyxo-----	0-5	.43	.43	2	5	56
	5-12	.43	.43			
	12-22	.49	.49			
	22-30	.32	.32			
	30-40	---	---			
Cochora-----	0-2	.49	.49	1	5	56
	2-9	.49	.49			
	9-15	.37	.37			
	15-25	---	---			
Badlands.						
472: Pyxo-----	0-5	.43	.43	3	5	56
	5-12	.43	.43			
	12-22	.49	.49			
	22-30	.32	.32			
	30-40	---	---			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
472: Kimberlina-----	0-10	.24	.24	5	3	86
	10-19	.24	.24			
	19-28	.24	.24			
	28-45	.28	.28			
	45-60	.28	.28			
Cochora-----	0-2	.49	.49	2	5	56
	2-9	.55	.55			
	9-15	.43	.43			
	15-25	---	---			
480: Pyxo, dry-----	0-5	.43	.43	2	5	56
	5-12	.43	.43			
	12-22	.49	.49			
	22-30	.32	.32			
	30-40	---	---			
Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
490: Padres-----	0-3	.24	.24	5	3	86
	3-16	.24	.24			
	16-30	.10	.24			
	30-38	.43	.43			
	38-46	.24	.24			
	46-62	.10	.20			
500: Bitcreek-----	0-3	.15	.15	5	5	56
	3-8	.20	.20			
	8-19	.20	.20			
	19-31	.20	.20			
	31-38	.24	.24			
	38-60	.24	.24			
510: Beam-----	0-4	.32	.32	1	3	86
	4-15	.32	.32			
	15-25	---	---			
Panoza-----	0-6	.37	.37	2	6	48
	6-18	.43	.43			
	18-24	.43	.43			
	24-34	---	---			
Hillbrick-----	0-4	.49	.49	1	5	56
	4-15	.49	.49			
	15-25	---	---			
511: Beam-----	0-4	.32	.32	1	3	86
	4-15	.32	.32			
	15-25	---	---			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
511: Panoza-----	0-6	.37	.37	2	6	48
	6-18	.43	.43			
	18-24	.43	.43			
	24-34	---	---			
Hillbrick-----	0-4	.49	.49	1	5	56
	4-15	.49	.49			
	15-25	---	---			
515: Zonap-----	0-3	.28	.28	3	3	86
	3-10	.28	.28			
	10-26	.32	.32			
	26-36	---	---			
Badlands.						
Beam-----	0-3	.32	.32	2	3	86
	3-15	.32	.32			
	15-25	---	---			
516: Zonap-----	0-3	.28	.28	3	3	86
	3-10	.28	.28			
	10-26	.32	.32			
	26-36	---	---			
Beam-----	0-3	.32	.32	2	3	86
	3-15	.32	.32			
	15-25	---	---			
530: Tehachapi-----	0-1	.32	.32	3	5	56
	1-5	.20	.20			
	5-19	.17	.17			
	19-24	.17	.17			
	24-34	.10	.20			
	34-48	.05	.24			
	48-60	.05	.24			
531: Tehachapi-----	0-1	.20	.32	3	6	48
	1-5	.10	.20			
	5-19	.10	.17			
	19-24	.10	.17			
	24-34	.10	.20			
	34-48	.05	.24			
	48-60	.05	.24			
540: Xeric Torriorthents-----	0-10	.15	.24	3	5	56
	10-24	.15	.43			
	24-43	.05	.32			
	43-53	---	---			
Badlands.						

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
550: Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
Welport-----	0-3	.32	.32	1	3	86
	3-9	.37	.37			
	9-12	.37	.37			
	12-27	---	---			
	27-60	.15	.32			
560: Laval-----	0-4	.20	.20	5	3	86
	4-13	.05	.20			
	13-20	.05	.20			
	20-23	.15	.15			
	23-32	.02	.05			
	32-48	.02	.15			
	48-62	.02	.15			
Pleitito-----	0-3	.32	.32	5	3	86
	3-8	.37	.37			
	8-11	.37	.37			
	11-18	.05	.10			
	18-21	.15	.37			
	21-29	.10	.24			
	29-48	.28	.28			
	48-65	.28	.28			
561: Laval-----	0-4	.20	.20	5	3	86
	4-13	.05	.20			
	13-20	.05	.20			
	20-23	.15	.15			
	23-32	.02	.05			
	32-48	.02	.15			
	48-62	.02	.15			
Pleitito-----	0-3	.32	.32	5	3	86
	3-8	.37	.37			
	8-11	.37	.37			
	11-18	.05	.10			
	18-21	.37	.37			
	21-29	.10	.24			
	29-48	.28	.28			
	48-65	.28	.28			
570: Hillbrick-----	0-4	.49	.49	1	5	56
	4-15	.49	.49			
	15-25	---	---			
Rock outcrop.						

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
571: Hillbrick-----	0-4	.49	.49	1	5	56
	4-15	.49	.49			
	15-25	---	---			
Rock outcrop.						
580: Reward-----	0-24	.15	.24	3	7	38
	24-39	.17	.37			
	39-60	.17	.32			
	60-70	---	---			
Hillbrick-----	0-2	.32	.32	1	3	86
	2-6	.32	.32			
	6-15	.32	.32			
	15-25	---	---			
581: Reward-----	0-24	.15	.24	3	7	38
	24-39	.17	.37			
	39-60	.17	.32			
	60-70	---	---			
583: Bellyspring-----	0-3	.24	.24	2	3	86
	3-13	.37	.37			
	13-23	.20	.20			
	23-38	.32	.32			
	38-40	---	---			
Panoza-----	0-6	.37	.37	2	6	48
	6-18	.43	.43			
	18-24	.43	.43			
	24-34	---	---			
584: Bellyspring-----	0-3	.24	.24	2	3	86
	3-13	.37	.37			
	13-23	.20	.20			
	23-38	.32	.32			
	38-40	---	---			
Panoza-----	0-6	.37	.37	2	6	48
	6-18	.43	.43			
	18-24	.43	.43			
	24-34	---	---			
585: Bellyspring-----	0-3	.24	.24	2	3	86
	3-13	.37	.37			
	13-23	.20	.20			
	23-38	.32	.32			
	38-40	---	---			
Panoza-----	0-6	.37	.37	2	6	48
	6-18	.43	.43			
	18-24	.43	.43			
	24-34	---	---			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
586:						
Panoza-----	0-6	.37	.37	2	6	48
	6-18	.43	.43			
	18-24	.43	.43			
	24-34	---	---			
Beam-----	0-4	.32	.32	1	3	86
	4-15	.32	.32			
	15-25	---	---			
587:						
Panoza-----	0-6	.37	.37	2	6	48
	6-18	.43	.43			
	18-24	.43	.43			
	24-34	---	---			
Beam-----	0-4	.32	.32	1	3	86
	4-15	.32	.32			
	15-25	---	---			
588:						
Panoza-----	0-6	.37	.37	2	6	48
	6-18	.43	.43			
	18-24	.43	.43			
	24-34	---	---			
Beam-----	0-4	.32	.32	1	3	86
	4-15	.32	.32			
	15-25	---	---			
590:						
Gorman-----	0-7	.20	.20	5	3	86
	7-15	.20	.20			
	15-23	.32	.32			
	23-37	.24	.24			
	37-48	.24	.24			
	48-61	.32	.32			
Typic Xerorthents, mesic-----	0-4	.37	.37	3	5	56
	4-9	.43	.43			
	9-18	.24	.43			
	18-24	.24	.49			
	24-34	.15	.55			
	34-44	---	---			
Xerorthents, shallow-----	0-8	.28	.28	2	5	56
	8-13	.32	.32			
	13-23	---	---			
591:						
Geghus-----	0-2	.32	.32	5	5	56
	2-6	.37	.37			
	6-15	.32	.32			
	15-29	.32	.32			
	29-44	.32	.32			
	44-54	.32	.32			
	54-62	.37	.37			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
591: Selby-----	0-3	.10	.37	2	7	38
	3-8	.10	.37			
	8-16	.05	.28			
	16-25	.05	.37			
	25-35	---	---			
600: Positas-----	0-2	.43	.43	4	5	56
	2-10	.43	.43			
	10-15	.43	.43			
	15-19	.28	.28			
	19-32	.28	.28			
	32-37	.24	.24			
	37-44	.32	.32			
	44-55	.05	.24			
	55-67	.05	.28			
Bitcreek-----	0-3	.15	.15	5	5	56
	3-8	.20	.20			
	8-19	.20	.20			
	19-31	.20	.20			
	31-38	.24	.24			
	38-60	.24	.24			
610: Balcom-----	0-2	.37	.37	3	4L	86
	2-10	.37	.37			
	10-20	.37	.37			
	20-33	.43	.43			
	33-43	---	---			
Rock outcrop.						
620: Typic Xerorthents, mesic-----	0-4	.37	.37	3	5	56
	4-9	.43	.43			
	9-18	.24	.43			
	18-24	.24	.49			
	24-34	.15	.55			
	34-44	---	---			
Haploxerepts-----	0-7	.15	.28	5	5	56
	7-20	.10	.24			
	20-41	.15	.28			
	41-60	.15	.24			
Xerorthents, sandy-----	0-11	.10	.15	4	2	134
	11-22	.10	.24			
	22-33	.15	.37			
	33-41	.20	.37			
	41-51	---	---			
640: Bitcreek-----	0-3	.15	.15	5	5	56
	3-8	.20	.20			
	8-19	.20	.20			
	19-31	.20	.20			
	31-38	.24	.24			
	38-60	.24	.24			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
640:						
Dibble-----	0-3	.24	.37	3	7	38
	3-12	.28	.28			
	12-22	.28	.28			
	22-31	.28	.28			
	31-38	.10	.37			
	38-48	---	---			
Eaglerest-----	0-2	.43	.43	1	5	56
	2-6	.17	.49			
	6-13	.20	.49			
	13-23	---	---			
650:						
Lithic Argixerolls-----	0-2	.24	.37	1	5	56
	2-7	.10	.37			
	7-11	.05	.32			
	11-21	---	---			
Lithic Xerorthents, mesic-----	0-7	.10	.37	1	8	0
	7-9	.10	.37			
	9-19	---	---			
Rock outcrop.						
660:						
Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
Legray-----	0-4	.17	.28	5	5	56
	4-13	.15	.24			
	13-26	.10	.24			
	26-32	.05	.24			
	32-39	.05	.24			
	39-48	.15	.24			
	48-61	.15	.24			
	61-65	.05	.24			
661:						
Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
Legray-----	0-4	.17	.28	5	5	56
	4-13	.15	.24			
	13-26	.10	.24			
	26-32	.05	.24			
	32-39	.05	.24			
	39-48	.15	.24			
	48-61	.15	.24			
	61-65	.05	.24			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
670: Harrisranch-----	0-3	.24	.24	5	3	86
	3-23	.24	.24			
	23-43	.24	.24			
	43-65	.24	.24			
Rock outcrop.						
680: Milham-----	0-5	.28	.28	5	3	86
	5-12	.28	.28			
	12-18	.24	.24			
	18-24	.24	.24			
	24-33	.24	.24			
	33-43	.24	.24			
	43-55	.24	.24			
	55-60	.10	.15			
690: Dibble-----	0-3	.24	.37	3	7	38
	3-12	.28	.28			
	12-22	.28	.28			
	22-31	.28	.28			
	31-38	.10	.37			
	38-48	---	---			
Geghus-----	0-2	.32	.32	5	5	56
	2-6	.37	.37			
	6-15	.32	.32			
	15-29	.32	.32			
	29-44	.32	.32			
	44-54	.32	.32			
	54-62	.37	.37			
700: Xerolls, loamy-skeletal-----	0-8	.32	.32	5	6	48
	8-18	.05	.37			
	18-38	.05	.37			
	38-60	.05	.37			
Los Gatos-----	0-1	---	---	2	5	56
	1-6	.43	.43			
	6-10	.49	.49			
	10-16	.43	.43			
	16-24	.17	.37			
	24-29	.05	.37			
	29-39	---	---			
720: Friant-----	0-1	.10	.24	1	6	48
	1-8	.20	.43			
	8-18	---	---			
Geghus-----	0-2	.32	.32	5	5	56
	2-6	.37	.37			
	6-15	.32	.32			
	15-29	.32	.32			
	29-44	.32	.32			
	44-54	.32	.32			
	54-62	.37	.37			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
720: Lithic Xerorthents, thermic-----	0-6	.20	.32	1	5	56
	6-12	---	---			
724: Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
725: Sodic Haplocambids, thick-----	0-3	.43	.43	3	5	56
	3-12	.43	.43			
	12-18	.49	.49			
	18-24	.55	.55			
	24-27	.37	.37			
	27-42	.37	.37			
	42-54	.20	.20			
	54-61	.20	.20			
726: Sodic Haplocambids, thick-----	0-3	.43	.43	3	5	56
	3-12	.43	.43			
	12-18	.49	.49			
	18-24	.55	.55			
	24-27	.37	.37			
	27-42	.37	.37			
	42-54	.20	.20			
	54-61	.20	.20			
727: Sodic Haplocambids, thick-----	0-3	.43	.43	3	5	56
	3-12	.43	.43			
	12-18	.49	.49			
	18-24	.55	.55			
	24-27	.37	.37			
	27-42	.37	.37			
	42-54	.20	.20			
	54-61	.20	.20			
728: Torriorthents, very thin-----	0-7	.32	.32	3	6	48
	7-16	.32	.32			
	16-23	.32	.32			
	23-33	.32	.32			
	33-60	---	---			
729: Sodic Haplocambids, thick-----	0-3	.43	.43	3	5	56
	3-12	.43	.43			
	12-18	.49	.49			
	18-24	.55	.55			
	24-27	.37	.37			
	27-42	.37	.37			
	42-54	.20	.20			
	54-61	.20	.20			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
729:						
Torriorthents, thin-----	0-2	.43	.43	5	5	56
	2-9	.43	.43			
	9-17	.24	.24			
	17-28	.24	.24			
	28-38	.24	.24			
	38-41	.32	.32			
	41-60	.20	.20			
Torriorthents, very thin, eroded----	0-7	.32	.32	3	6	48
	7-16	.32	.32			
	16-23	.32	.32			
	23-33	.32	.32			
	33-60	---	---			
730:						
Haplocambids, thick-----	0-1	.37	.37	4	5	56
	1-5	.37	.37			
	5-16	.32	.32			
	16-20	.37	.37			
	20-26	.15	.24			
	26-33	.10	.20			
	33-54	.17	.37			
	54-60	.10	.37			
Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
731:						
Haplocambids, thick-----	0-1	.37	.37	4	5	56
	1-5	.37	.37			
	5-16	.32	.32			
	16-20	.37	.37			
	20-26	.15	.24			
	26-33	.10	.20			
	33-54	.17	.37			
	54-60	.10	.37			
Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
732:						
Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
732: Haplocambids, thick-----	0-1	.37	.37	4	5	56
	1-5	.37	.37			
	5-16	.32	.32			
	16-20	.37	.37			
	20-26	.15	.24			
	26-33	.10	.20			
	33-54	.17	.37			
	54-60	.10	.37			
733: Sodic Haplocambids, thick-----	0-3	.43	.43	3	5	56
	3-12	.43	.43			
	12-18	.49	.49			
	18-24	.55	.55			
	24-27	.37	.37			
	27-42	.37	.37			
	42-54	.20	.20			
	54-61	.20	.20			
Torriorthents, thin-----	0-2	.43	.43	5	5	56
	2-9	.43	.43			
	9-17	.24	.24			
	17-28	.24	.24			
	28-38	.24	.24			
	38-41	.32	.32			
	41-60	.20	.20			
734: Sodic Haplocambids, thick-----	0-3	.43	.43	3	5	56
	3-12	.43	.43			
	12-18	.49	.49			
	18-24	.55	.55			
	24-27	.37	.37			
	27-42	.37	.37			
	42-54	.20	.20			
	54-61	.20	.20			
Torriorthents, very thin, eroded----	0-1	.32	.32	3	6	48
	1-16	.32	.32			
	16-23	.37	.37			
	23-33	.37	.37			
	33-60	---	---			
Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
735: Sodic Haplocambids, thick-----	0-3	.43	.43	3	5	56
	3-12	.43	.43			
	12-18	.49	.49			
	18-24	.55	.55			
	24-27	.37	.37			
	27-42	.37	.37			
	42-54	.20	.20			
	54-61	.20	.20			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
735: Elkhills-----	0-4	.24	.24	5	3	86
	4-10	.24	.24			
	10-27	.24	.24			
	27-34	.28	.28			
	34-52	.24	.24			
	52-65	.32	.32			
Torriorthents, thin-----	0-2	.43	.43	5	5	56
	2-9	.43	.43			
	9-17	.24	.24			
	17-28	.24	.24			
	28-38	.24	.24			
	38-41	.32	.32			
	41-60	.20	.20			
750: Ballinger-----	0-3	.24	.24	2	4	86
	3-15	.28	.28			
	15-23	.28	.28			
	23-36	.28	.28			
	36-46	---	---			
760: Ballinger-----	0-3	.24	.24	2	4	86
	3-15	.28	.28			
	15-23	.28	.28			
	23-36	.28	.28			
	36-46	---	---			
780: Stutzville-----	0-1	.43	.43	5	6	48
	1-7	.43	.43			
	7-35	.43	.43			
	35-48	.32	.32			
	48-66	.32	.32			
	66-72	.15	.15			
850: Xerofluvents-----	0-4	.10	.24	5	5	56
	4-19	.05	.24			
	19-31	.05	.05			
	31-40	.05	.24			
	40-53	.05	.10			
	53-62	.10	.24			
860: Hawk-----	0-2	---	---	5	5	56
	2-7	.10	.20			
	7-17	.05	.20			
	17-39	.10	.24			
	39-60	.10	.24			
870: Frazier-----	0-4	.10	.20	2	6	48
	4-12	.05	.32			
	12-23	.05	.32			
	23-33	---	---			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
880: Chuchupate-----	0-1	---	---	2	5	56
	1-10	.10	.24			
	10-21	.10	.28			
	21-36	.10	.37			
	36-46	---	---			
890: Gorman-----	0-7	.20	.20	5	3	86
	7-15	.20	.20			
	15-23	.32	.32			
	23-37	.24	.24			
	37-48	.24	.24			
	48-61	.32	.32			
919: Zonap-----	0-3	.28	.28	3	3	86
	3-10	.28	.28			
	10-26	.32	.32			
	26-36	---	---			
Harrisranch-----	0-3	.24	.24	5	3	86
	3-23	.24	.24			
	23-43	.24	.24			
	43-65	.24	.24			
Beam-----	0-3	.28	.28	2	3	86
	3-15	.28	.28			
	15-25	---	---			
930: Bitcreek-----	0-3	.15	.15	5	5	56
	3-8	.20	.20			
	8-19	.20	.20			
	19-31	.20	.20			
	31-38	.24	.24			
	38-60	.24	.24			
Shimmon-----	0-1	.24	.24	2	6	48
	1-5	.32	.32			
	5-11	.32	.32			
	11-15	.37	.37			
	15-21	.24	.37			
	21-31	---	---			
Balhud-----	0-3	.43	.43	1	6	48
	3-10	.32	.32			
	10-18	---	---			
	18-28	---	---			
932: Bitcreek-----	0-3	.15	.15	5	5	56
	3-8	.20	.20			
	8-19	.20	.20			
	19-31	.20	.20			
	31-38	.24	.24			
	38-60	.24	.24			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
932: Shimmon-----	0-1	.24	.24	2	6	48
	1-5	.32	.32			
	5-11	.37	.37			
	11-15	.37	.37			
	15-21	.24	.43			
	21-31	---	---			
Balhud-----	0-3	.43	.43	1	6	48
	3-10	.32	.32			
	10-18	---	---			
	18-28	---	---			
940: Bitcreek-----	0-3	.10	.10	5	3	86
	3-8	.20	.20			
	8-19	.20	.20			
	19-31	.20	.20			
	31-38	.24	.24			
	38-60	.24	.24			
950: Pleito-----	0-4	.24	.24	5	5	56
	4-8	.24	.24			
	8-18	.24	.24			
	18-25	.24	.24			
	25-32	.15	.24			
	32-46	.15	.24			
	46-56	.17	.24			
	56-64	.17	.24			
	64-80	.15	.24			
Ballinger-----	0-3	.24	.24	3	4	86
	3-15	.28	.28			
	15-23	.28	.28			
	23-36	.28	.28			
	36-46	---	---			
Balhud-----	0-3	.43	.43	1	6	48
	3-10	.32	.32			
	10-18	---	---			
	18-28	---	---			
951: Bitcreek-----	0-3	.15	.15	5	5	56
	3-8	.20	.20			
	8-19	.20	.20			
	19-31	.20	.20			
	31-38	.24	.24			
	38-60	.24	.24			
Balhud-----	0-3	.43	.43	1	6	48
	3-10	.32	.32			
	10-18	---	---			
	18-28	---	---			
Ballinger-----	0-3	.24	.24	3	4	86
	3-15	.28	.28			
	15-23	.28	.28			
	23-36	.32	.32			
	36-46	---	---			

Soil Survey of Kern County, California, Southwest Part

Table 20.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Kw	Kf	T		
	<i>In</i>					
954:						
Typic Haploxeralfs, fine-----	0-1	.32	.32	3	6	48
	1-12	.28	.28			
	12-19	.10	.28			
	19-24	.17	.24			
	24-34	---	---			
Haploxerolls, coarse-loamy-----	0-4	.10	.20	2	5	56
	4-17	.05	.24			
	17-34	.05	.32			
	34-44	---	---			
955:						
Calcic Haploxerepts-----	0-4	.32	.32	5	6	48
	4-9	.32	.32			
	9-18	.20	.32			
	18-25	.32	.32			
	25-37	.32	.32			
	37-60	.37	.37			
Xerorthents, shallow-----	0-8	.28	.28	2	5	56
	8-13	.32	.32			
	13-23	---	---			
Badlands.						
970:						
Harrisranch-----	0-3	.24	.24	5	3	86
	3-23	.24	.24			
	23-43	.24	.24			
	43-65	.24	.24			
Bitcreek-----	0-3	.15	.15	5	5	56
	3-8	.20	.20			
	8-19	.20	.20			
	19-31	.20	.20			
	31-38	.24	.24			
	38-60	.24	.24			
980:						
Area not surveyed, access denied.						
W:						
Water.						

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils

[Soil properties are measured or inferred from direct observations in the field or laboratory. Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	Clay	Cation-	Soil	Calcium	Gypsum	Salinity	Sodium
	In	Pct	exchange capacity meq/100g	reaction pH	carbonate Pct	Pct	dS/m	adsorption ratio
101: Bakersfield, drained-----	0-3	5-18	4.8-16	6.1-6.5	0-2	0	0.5-3.0	2-12
	3-10	5-18	4.8-16	6.1-6.5	0-2	0	0.5-3.0	2-12
	10-16	5-18	4.6-16	6.6-7.3	0-2	0	0.5-3.0	2-12
	16-29	3-18	2.9-15	7.9-8.4	0-3	0	1.0-4.0	2-12
	29-45	3-18	2.7-15	7.9-8.4	0-3	0	1.0-4.0	2-12
	45-51	12-25	9.9-20	7.9-8.4	0-3	0	1.0-5.0	2-12
	51-58	18-27	14-22	7.9-8.4	0-3	0	1.0-5.0	2-12
	58-66	2-8	1.8-6.8	7.9-8.4	0-3	0	1.0-5.0	2-12
102: Bakersfield, partially drained----	0-3	5-18	4.8-16	6.1-6.5	0-2	0	1.0-5.0	5-15
	3-10	5-18	4.8-16	6.1-6.5	0-2	0	1.0-5.0	5-15
	10-16	5-18	4.6-16	6.6-7.8	0-2	0	1.0-8.0	30-80
	16-29	3-18	2.9-15	7.9-8.4	0-3	0	3.0-8.0	30-80
	29-45	3-18	2.7-15	7.9-8.4	0-3	0	5.0-10.0	30-80
	45-51	12-25	9.9-20	7.9-8.4	0-3	0	5.0-10.0	30-80
	51-58	18-27	14-22	7.9-8.4	0-3	0	8.0-10.0	30-80
	58-66	2-8	1.8-6.8	7.9-8.4	0-3	0	8.0-10.0	30-80
110: Buttonwillow, partially drained---	0-8	40-55	26-39	6.1-7.3	0	0-1	1.0-4.0	3-10
	8-24	40-55	30-40	6.1-7.3	0	0-1	1.0-4.0	3-10
	24-30	40-55	29-40	6.1-7.3	0-3	0-3	1.0-4.0	3-10
	30-36	5-18	4.7-15	6.6-7.8	0-3	0-1	1.0-4.0	3-10
	36-43	5-10	4.7-8.9	6.6-7.8	0-3	0-1	1.0-4.0	3-10
	43-60	25-40	19-29	6.6-7.3	0-3	0-1	1.0-4.0	3-10
	60-67	25-40	19-30	6.6-8.4	0-3	0-1	1.0-4.0	3-10
	67-70	10-20	8.6-16	7.9-8.4	0-3	0-1	1.0-4.0	3-10
120: Granoso-----	0-10	4-12	3.3-9.1	7.4-8.4	0-3	0	0.1-2.0	1-4
	10-20	4-12	3.1-8.5	7.4-8.4	0-3	0	0.1-2.0	1-4
	20-36	4-12	2.9-8.3	7.4-8.4	0-3	0	0.1-2.0	1-4
	36-62	4-12	2.8-8.0	7.4-8.4	0-3	0	0.1-2.0	1-4
121: Granoso-----	0-10	4-12	3.3-9.1	7.4-8.4	0-3	0	0.3-4.0	1-8
	10-20	4-12	3.1-8.5	7.4-8.4	0-3	0	0.3-4.0	1-8
	20-36	4-12	2.9-8.3	7.4-8.4	0-3	0	0.3-4.0	1-8
	36-62	4-12	2.8-8.0	7.4-8.4	0-3	0	0.3-4.0	1-8
122: Granoso, loamy substratum-----	0-10	4-12	3.3-9.1	7.4-8.4	0-3	0	0.1-2.0	1-4
	10-20	4-12	3.1-8.5	7.4-8.4	0-3	0	0.1-2.0	1-4
	20-36	4-12	2.9-8.3	7.4-8.4	0-3	0	0.1-2.0	1-4
	36-62	4-12	2.8-8.0	7.4-8.4	0-3	0	0.1-2.0	1-4
123: Granoso-----	0-10	4-12	3.3-9.1	7.4-8.4	0-3	0	0.1-2.0	1-4
	10-20	4-12	3.1-8.5	7.4-8.4	0-3	0	0.1-2.0	1-4
	20-36	4-12	2.9-8.3	7.4-8.4	0-3	0	0.1-2.0	1-4
	36-62	4-12	2.8-8.0	7.4-8.4	0-3	0	0.1-2.0	1-4

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Cation-	Soil	Calcium	Gypsum	Salinity	Sodium
	In	Pct	exchange capacity	reaction	carbonate	Pct	dS/m	adsorption ratio
			meq/100g	pH	Pct	Pct		
124: Granoso-----	0-10	4-12	3.3-9.1	7.4-8.4	0-3	0	0.1-2.0	1-4
	10-20	4-12	3.1-8.5	7.4-8.4	0-3	0	0.1-2.0	1-4
	20-36	4-12	2.9-8.3	7.4-8.4	0-3	0	0.1-2.0	1-4
	36-62	4-12	2.8-8.0	7.4-8.4	0-3	0	0.1-2.0	1-4
130: Cerini-----	0-10	10-18	8.8-15	7.4-8.4	0-4	0	0.5-3.0	1-5
	10-17	20-40	16-31	7.4-8.4	0-4	0	0.5-3.0	1-5
	17-24	20-40	16-31	7.4-8.4	1-4	0	0.5-3.0	2-5
	24-47	8-40	6.6-31	7.4-8.4	1-4	0	0.5-3.0	2-5
	47-69	8-40	6.6-31	7.4-8.4	1-4	0	0.5-3.0	2-5
131: Calflax-----	0-6	14-30	12-24	7.9-9.0	1-5	0-2	2.0-8.0	2-15
	6-21	27-40	12-31	7.9-9.0	1-5	0-2	2.0-8.0	2-15
	21-30	27-40	21-31	7.9-9.0	1-5	0-2	2.0-8.0	2-15
	30-37	27-40	21-31	7.9-9.0	1-5	0-2	2.0-8.0	2-15
	37-46	10-18	8.1-15	7.9-9.0	1-5	0-2	4.0-16.0	13-30
	46-52	10-25	8.1-20	7.9-9.0	0-5	0-2	4.0-16.0	13-30
	52-60	10-25	8.1-19	7.9-9.0	0-5	0-2	4.0-16.0	13-30
132: Cerini-----	0-10	20-40	16-31	7.4-8.4	0-4	0	0.5-3.0	1-5
	10-17	20-40	16-31	7.4-8.4	0-4	0	0.5-3.0	1-5
	17-24	20-40	16-31	7.4-8.4	1-4	0	0.5-3.0	2-5
	24-47	8-40	6.6-31	7.4-8.4	1-4	0	0.5-3.0	2-5
	47-69	8-40	6.6-31	7.4-8.4	1-4	0	0.5-3.0	2-5
133: Calflax-----	0-6	16-25	13-20	7.9-9.0	1-5	0-2	2.0-8.0	2-15
	6-21	27-40	21-31	7.9-9.0	1-5	0-2	2.0-8.0	2-15
	21-30	27-40	21-31	7.9-9.0	1-5	0-2	2.0-8.0	2-15
	30-37	27-40	21-31	7.9-9.0	1-5	0-2	2.0-8.0	2-15
	37-46	10-18	8.1-15	7.9-9.0	1-5	0-2	4.0-16.0	13-30
	46-52	10-25	8.1-20	7.9-9.0	0-5	0-2	4.0-16.0	13-30
	52-60	10-25	8.1-19	7.9-9.0	0-5	0-2	4.0-16.0	13-30
134: Cerini-----	0-10	20-40	16-31	7.4-8.4	0-4	0	0.5-3.0	1-5
	10-17	20-40	16-31	7.4-8.4	0-4	0	0.5-3.0	1-5
	17-24	20-40	16-31	7.4-8.4	1-4	0	0.5-3.0	2-5
	24-47	8-40	6.6-31	7.4-8.4	1-4	0	0.5-3.0	2-5
	47-69	8-40	6.6-31	7.4-8.4	1-4	0	0.5-3.0	2-5
140: Copus silty clay, partially drained-----	0-5	40-60	---	4.0-6.5	0	0-5	2.0-8.0	1-3
	5-17	40-60	31-45	4.0-6.5	0	0-10	2.0-8.0	1-3
	17-23	34-70	---	4.0-6.5	0	2-10	2.0-8.0	1-3
	23-39	34-70	---	4.0-6.5	0	2-10	2.0-8.0	1-3
	39-51	34-60	---	4.0-6.5	0	2-10	2.0-8.0	1-3
	51-60	35-70	---	4.0-6.5	0	2-10	2.0-8.0	1-5
141: Copus clay, partially drained-----	0-5	40-65	---	4.0-6.5	0	0-5	2.0-8.0	1-3
	5-17	40-65	31-48	4.0-6.5	0	0-10	2.0-8.0	1-3
	17-23	50-70	---	4.0-6.5	0	2-10	2.0-8.0	1-3
	23-39	50-70	---	4.0-6.5	0	2-10	2.0-8.0	1-3
	39-51	40-60	---	4.0-6.5	0	2-10	2.0-8.0	1-3
	51-60	35-70	---	4.0-6.5	0	2-10	2.0-8.0	1-5

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
150: Excelsior-----	0-8	5-18		4.6-15	7.4-9.0	1-4	0	1.0-3.0	1-5
	8-19	5-18		4.5-15	7.4-9.0	1-4	0	1.0-3.0	1-5
	19-25	5-18		4.3-15	7.4-9.0	1-4	0	1.0-3.0	1-5
	25-36	5-18		4.3-15	7.4-9.0	1-4	0	1.0-3.0	1-5
	36-41	12-18		9.8-15	7.4-9.0	1-4	0	2.0-6.0	1-5
	41-48	3-8		2.7-6.9	7.4-9.0	1-4	0	1.0-3.0	1-5
	48-62	5-18		4.3-15	7.4-9.0	1-4	0	2.0-6.0	1-5
151: Excelsior, saline-sodic-----	0-8	5-18		4.6-15	7.4-9.0	1-4	0	1.0-8.0	1-10
	8-19	5-18		4.5-15	7.4-9.0	1-4	0	1.0-8.0	1-10
	19-25	5-18		4.3-15	7.4-9.0	1-4	0	1.0-8.0	1-10
	25-36	5-18		4.3-15	7.4-9.0	1-4	0	1.0-8.0	1-10
	36-41	12-18		9.8-15	7.4-9.0	1-4	0	2.0-8.0	1-10
	41-48	3-8		2.7-6.9	7.4-9.0	1-4	0	4.0-16.0	5-20
	48-62	5-18		4.3-15	7.4-9.0	1-4	0	4.0-16.0	5-20
152: Excelsior-----	0-8	5-18		4.6-15	7.4-9.0	1-4	0	1.0-3.0	1-10
	8-19	5-18		4.5-15	7.4-9.0	1-4	0	1.0-3.0	1-10
	19-25	5-18		4.3-15	7.4-9.0	1-4	0	1.0-3.0	1-10
	25-36	5-18		4.3-15	7.4-9.0	1-4	0	1.0-3.0	1-10
	36-41	12-18		9.8-15	7.4-9.0	1-4	0	2.0-6.0	1-10
	41-48	3-8		2.7-6.9	7.4-9.0	1-4	0	1.0-3.0	1-10
	48-62	5-18		4.3-15	7.4-9.0	1-4	0	2.0-6.0	1-10
153: Tupman-----	0-6	10-18		8.8-15	7.9-8.4	0-4	0-1	0.4-2.0	1-5
	6-14	10-18		8.6-15	7.9-8.4	0-4	0-1	0.4-2.0	1-5
	14-30	5-18		4.7-15	7.9-8.4	0-4	0-1	0.4-2.0	1-5
	30-37	5-18		4.3-14	7.9-8.4	0-4	0-1	0.4-2.0	1-5
	37-48	5-14		4.5-12	7.9-8.4	0-4	0-1	0.4-2.0	1-5
	48-60	5-14		4.2-11	7.9-8.4	0-4	0-1	0.4-2.0	1-5
154: Tupman-----	0-6	10-18		8.8-15	7.9-8.4	0-4	0-1	0.4-2.0	1-5
	6-14	10-18		8.6-15	7.9-8.4	0-4	0-1	0.4-2.0	1-5
	14-30	5-18		4.7-15	7.9-8.4	0-4	0-1	0.4-2.0	1-5
	30-37	5-18		4.3-14	7.9-8.4	0-4	0-1	0.4-2.0	1-5
	37-48	5-14		4.5-12	7.9-8.4	0-4	0-1	0.4-2.0	1-5
	48-60	5-14		4.2-11	7.9-8.4	0-4	0-1	0.4-2.0	1-5
Urban land.									
160: Fages-----	0-7	40-55		29-40	7.4-9.0	0-2	2-5	5.0-30.0	5-50
	7-22	40-55		29-40	7.4-9.0	0-2	2-5	5.0-30.0	20-80
	22-30	40-55		29-39	7.4-9.0	0-2	2-5	5.0-30.0	20-80
	30-48	40-55		26-36	7.4-9.0	0-2	2-8	5.0-30.0	20-80
	48-56	8-55		7.1-39	7.4-9.0	0-5	2-8	5.0-70.0	20-120
	56-58	8-55		6.3-36	7.4-9.0	0-5	2-8	5.0-70.0	20-120
	58-65	8-55		6.3-36	7.4-9.0	0-5	2-8	5.0-70.0	20-120
179: Padres-----	0-3	8-18		7.1-15	7.9-8.4	1-5	0-1	0.5-3.0	1-10
	3-16	8-18		6.8-15	7.9-8.4	1-5	0-1	0.5-3.0	1-10
	16-30	8-18		6.2-14	7.9-8.4	2-7	0-1	1.0-4.0	1-10
	30-38	8-18		6.2-14	7.9-8.4	2-7	0	2.0-4.0	1-10
	38-46	8-18		6.2-14	7.9-8.4	2-7	0	2.0-4.0	1-10
	46-62	8-18		6.2-14	7.9-8.4	2-7	0	2.0-4.0	1-10

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	dS/m	
180: Garces-----	0-7	15-27	13-22	7.9-9.0	1-4	0	2.0-8.0	1-25
	7-14	28-35	22-31	7.9-9.6	1-4	0	2.0-8.0	1-25
	14-24	15-35	12-31	7.9-9.6	1-4	0	8.0-16.0	15-50
	24-37	15-35	12-30	7.9-9.6	1-4	0	8.0-16.0	15-50
	37-55	10-20	8.1-16	7.9-9.6	1-4	0	8.0-16.0	13-50
	55-64	10-20	7.9-16	7.9-9.6	1-4	0	4.0-16.0	13-50
190: Gujarral-----	0-1	8-18	7.2-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	1-4	8-18	7.1-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	4-16	8-18	7.0-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	16-29	8-18	6.9-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	29-40	8-18	6.8-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	40-46	8-18	6.6-14	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	46-51	8-18	6.5-14	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	51-60	8-18	6.5-14	7.9-8.4	4-8	0-1	0.3-2.0	1-5
191: Gujarral-----	0-1	8-18	7.2-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	1-4	8-18	7.1-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	4-16	8-18	7.0-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	16-29	8-18	6.9-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	29-40	8-18	6.8-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	40-46	8-18	6.6-14	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	46-51	8-18	6.5-14	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	51-60	8-18	6.5-14	7.9-8.4	4-8	0-1	0.3-2.0	1-5
192: Gujarral-----	0-1	8-18	7.2-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	1-4	8-18	7.1-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	4-16	8-18	7.0-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	16-29	8-18	6.9-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	29-40	8-18	6.8-15	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	40-46	8-18	6.6-14	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	46-51	8-18	6.5-14	7.9-8.4	4-8	0-1	0.3-2.0	1-5
	51-60	8-18	6.5-14	7.9-8.4	4-8	0-1	0.3-2.0	1-5
Klipstein-----	0-5	5-18	4.1-15	6.6-8.4	2-4	0	0.3-2.0	1-5
	5-23	5-18	4.1-15	6.6-8.4	2-4	0	0.3-2.0	1-5
	23-30	5-18	4.1-15	6.6-8.4	2-4	0	0.3-2.0	1-5
	30-36	5-18	4.1-14	6.6-8.4	2-4	0	0.3-2.0	1-5
	36-60	5-18	4.1-14	6.6-8.4	2-4	0	0.3-2.0	1-5
193: Gujarral-----	0-1	8-18	7.2-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	1-4	8-18	7.1-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	4-16	8-18	7.0-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	16-29	8-18	6.9-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	29-40	8-18	6.8-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	40-46	8-18	6.6-14	7.9-8.4	4-8	0-1	2.0-8.0	1-5
	46-51	8-18	6.5-14	7.9-8.4	4-8	0-1	2.0-8.0	1-5
	51-60	8-18	6.5-14	7.9-8.4	4-8	0-1	2.0-8.0	1-5

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	dS/m	
195: Guijarral, extremely gravelly substratum-----	0-1	8-18	7.2-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	1-4	8-18	7.1-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	4-16	8-18	7.0-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	16-29	8-18	6.9-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	29-40	8-18	6.8-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	40-46	8-18	6.6-14	7.9-8.4	4-8	0-1	2.0-8.0	1-5
	46-51	8-18	6.5-14	7.9-8.4	4-8	0-1	2.0-8.0	1-5
	51-60	8-18	6.5-14	7.9-8.4	4-8	0-1	2.0-8.0	1-5
Guijarral-----	0-3	8-18	7.2-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	3-10	8-18	7.1-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	10-17	8-18	7.0-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	17-23	8-18	6.9-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	23-41	8-18	6.8-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	41-50	8-18	6.6-14	7.9-8.4	4-8	0-1	2.0-8.0	1-5
	50-65	8-18	6.5-14	7.9-8.4	4-8	0-1	2.0-8.0	1-5
	65-70	8-18	6.5-14	7.9-8.4	4-8	0-1	2.0-8.0	1-5
197: Klipstein-----	0-5	5-18	4.1-15	6.6-8.4	2-4	0	0.3-2.0	1-5
	5-23	5-18	4.1-15	6.6-8.4	2-4	0	0.3-2.0	1-5
	23-30	5-18	4.1-15	6.6-8.4	2-4	0	0.3-2.0	1-5
	30-36	5-18	4.1-14	6.6-8.4	2-4	0	0.3-2.0	1-5
	36-60	5-18	4.1-14	6.6-8.4	2-4	0	0.3-2.0	1-5
Guijarral-----	0-1	8-18	7.2-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	1-4	8-18	7.1-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	4-16	8-18	7.0-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	16-29	8-18	6.9-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	29-40	8-18	6.8-15	7.9-8.4	4-8	0-1	0.3-4.0	1-5
	40-46	8-18	6.6-14	7.9-8.4	4-8	0-1	2.0-8.0	1-5
	46-51	8-18	6.5-14	7.9-8.4	4-8	0-1	2.0-8.0	1-5
	51-60	8-18	6.5-14	7.9-8.4	4-8	0-1	2.0-8.0	1-5
200: Hesperia-----	0-2	3-18	2.9-15	7.4-8.4	0	0	0.2-1.0	1-2
	2-6	3-18	2.8-15	7.4-8.4	0	0	0.2-1.0	1-2
	6-13	3-18	2.7-14	7.4-8.4	0	0	0.2-2.0	1-2
	13-24	3-18	2.7-14	7.4-8.4	0-2	0	0.2-2.0	1-2
	24-33	3-18	2.6-14	7.4-8.4	0-2	0	0.2-2.0	1-2
	33-60	3-18	2.6-13	7.4-8.4	0-2	0	0.2-2.0	1-2
201: Hesperia-----	0-18	8-18	6.2-15	7.4-8.4	0-2	0	0.2-2.0	1-2
	18-34	8-18	6.2-13	7.4-8.4	0-2	0	0.2-2.0	1-2
	34-70	8-18	6.2-13	7.4-8.4	0-2	0	0.2-2.0	1-2
210: Kimberlina-----	0-9	6-18	5.5-15	6.6-8.4	0-5	0	0.3-2.0	1-4
	9-45	10-18	7.9-14	7.9-8.4	5-10	0	0.3-4.0	1-4
	45-71	10-25	7.9-19	7.9-8.4	5-10	0	0.3-4.0	1-4
211: Kimberlina-----	0-10	6-18	5.5-15	7.4-8.4	1-5	0	0.3-2.0	1-4
	10-19	6-18	5.4-15	7.4-8.4	1-5	0	0.3-4.0	1-4
	19-28	6-18	5.3-15	7.4-8.4	1-5	0	0.3-4.0	1-4
	28-45	6-18	5.1-14	7.4-8.4	1-5	0	0.3-4.0	1-4
	45-60	6-18	5.0-14	7.4-8.4	1-5	0	0.3-4.0	1-4

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	dS/m	
212: Kimberlina, saline-sodic-----	0-9	6-18	5.5-15	7.9-8.4	1-5	0	4.0-8.0	5-15
	9-45	10-18	7.6-13	7.9-8.4	5-10	0	4.0-8.0	13-20
	45-71	10-25	7.9-19	7.9-8.4	5-10	0	1.0-4.0	5-15
214: Kimberlina-----	0-10	6-18	5.5-15	7.4-8.4	1-5	0	0.3-2.0	1-4
	10-19	6-18	5.4-15	7.4-8.4	1-5	0	0.3-4.0	1-4
	19-28	6-18	5.3-15	7.4-8.4	1-5	0	0.3-4.0	1-4
	28-45	6-18	5.1-14	7.4-8.4	1-5	0	0.3-4.0	1-4
	45-60	6-18	5.0-14	7.4-8.4	1-5	0	0.3-4.0	1-4
215: Kimberlina-----	0-25	6-18	5.5-15	6.6-8.4	1-5	0	0.3-2.0	1-4
	25-60	6-18	4.8-13	7.9-8.4	5-10	0	0.3-4.0	1-4
216: Kimberlina, occasionally flooded--	0-10	6-18	5.5-15	7.4-8.4	1-5	0	0.3-2.0	1-4
	10-19	6-18	5.4-15	7.4-8.4	1-5	0	0.3-4.0	1-4
	19-28	6-18	5.3-15	7.4-8.4	1-5	0	0.3-4.0	1-4
	28-45	6-18	5.1-14	7.4-8.4	1-5	0	0.3-4.0	1-4
	45-60	6-18	5.0-14	7.4-8.4	1-5	0	0.3-4.0	1-4
Granoso, occasionally flooded----	0-10	4-12	3.3-9.1	7.4-8.4	0-3	0	0.1-2.0	1-4
	10-20	4-12	3.1-8.5	7.4-8.4	0-3	0	0.1-2.0	1-4
	20-36	4-12	2.9-8.3	7.4-8.4	0-3	0	0.1-2.0	1-4
	36-62	4-12	2.8-8.0	7.4-8.4	0-3	0	0.1-2.0	1-4
217: Kimberlina-----	0-10	6-18	5.5-15	7.4-8.4	1-5	0	0.3-2.0	1-4
	10-19	6-18	5.4-15	7.4-8.4	1-5	0	0.3-4.0	1-4
	19-28	6-18	5.3-15	7.4-8.4	1-5	0	0.3-4.0	1-4
	28-45	6-18	5.1-14	7.4-8.4	1-5	0	0.3-4.0	1-4
	45-60	6-18	5.0-14	7.4-8.4	1-5	0	0.3-4.0	1-4
Urban land.								
219: Xerorthents-----	0-12	15-20	11-14	7.9-8.4	0	0	0.3-2.0	2-6
	12-19	10-20	5.7-10	7.9-8.4	0	0	0.3-2.0	2-6
	19-26	10-20	5.7-10	7.9-8.4	0	0	0.3-2.0	2-6
	26-36	---	---	---	---	---	---	---
Badlands.								
220: Lokern, drained-----	0-11	35-55	27-41	6.6-8.4	0-1	0-2	1.0-4.0	4-10
	11-21	35-55	27-41	7.9-8.4	0-1	0-2	1.0-4.0	4-10
	21-28	35-55	27-40	6.1-7.3	0-1	0-2	1.0-4.0	3-8
	28-33	35-55	26-40	5.6-7.3	0-1	0-3	1.0-4.0	2-7
	33-42	35-55	26-39	5.6-7.3	0-1	0-3	1.0-4.0	2-7
	42-53	35-55	25-39	5.6-7.3	0-1	2-5	1.0-4.0	2-7
	53-60	35-55	27-40	6.1-7.3	0-1	2-4	1.0-4.0	2-7
	60-67	35-55	25-38	6.1-7.3	0-1	0-2	1.0-4.0	2-7

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
221: Lokern, partially drained-----	0-11	35-55		27-41	6.6-8.4	0-1	0-2	4.0-8.0	5-20
	11-21	35-55		27-41	7.9-8.4	0-1	0-2	4.0-8.0	5-20
	21-28	35-55		27-40	6.1-7.3	0-1	0-2	4.0-8.0	3-15
	28-33	35-55		26-40	5.6-7.3	0-1	0-3	4.0-8.0	3-15
	33-42	35-55		26-39	5.6-7.3	0-1	0-3	4.0-8.0	3-15
	42-53	35-55		25-39	5.6-7.3	0-1	2-5	4.0-8.0	3-15
	53-60	35-55		27-40	6.1-7.3	0-1	2-4	4.0-8.0	3-15
	60-67	35-55		25-38	6.1-7.3	0-1	0-2	4.0-8.0	3-15
230: Milagro-----	0-8	5-18		4.5-15	6.1-8.4	0	0	0.5-4.0	1-6
	8-14	5-18		4.5-15	6.1-8.4	0	0	0.5-4.0	1-6
	14-19	5-18		4.5-15	6.1-8.4	0	0	0.5-4.0	1-6
	19-27	5-28		4.2-21	6.1-8.4	0	0	0.5-4.0	1-6
	27-32	5-28		4.3-22	6.1-8.4	0-1	0	0.5-4.0	1-6
	32-51	5-28		4.0-21	6.1-8.4	0-1	0	0.5-4.0	1-6
	51-60	5-28		4.0-21	6.1-8.4	0-1	0	0.5-4.0	1-6
231: Milagro-----	0-8	5-18		4.5-15	6.1-8.4	0	0	0.5-4.0	1-6
	8-14	5-18		4.5-15	6.1-8.4	0	0	0.5-4.0	1-6
	14-19	5-18		4.5-15	6.1-8.4	0	0	0.5-4.0	1-6
	19-27	5-18		4.2-14	6.1-8.4	0	0	0.5-4.0	1-6
	27-32	5-20		4.3-16	6.1-8.4	0-1	0	0.5-4.0	1-6
	32-51	5-18		4.0-14	6.1-8.4	0-1	0	0.5-4.0	1-6
	51-60	5-18		4.0-14	6.1-8.4	0-1	0	0.5-4.0	1-6
240: Millox, partially drained-----	0-5	30-50		23-37	7.9-9.6	2-5	0-1	0.5-3.0	10-30
	5-19	30-50		23-36	7.9-9.6	2-5	0-1	0.5-5.0	20-35
	19-35	30-50		23-36	7.9-9.6	4-14	0-1	3.0-16.0	20-60
	35-53	26-50		20-36	7.9-10.0	4-14	0-1	3.0-16.0	40-100
	53-60	15-35		11-26	7.9-10.0	4-14	0-1	3.0-16.0	50-150
	60-65	15-25		12-19	7.9-10.0	4-14	0-1	4.0-16.0	60-150
241: Millox, partially drained, nonsaline-----	0-5	30-50		23-37	7.9-9.6	2-5	0-1	0.5-3.0	2-5
	5-19	30-50		23-36	7.9-9.6	2-5	0-1	0.5-3.0	2-5
	19-35	30-50		23-36	7.9-9.6	4-14	0-1	1.0-4.0	2-5
	35-53	26-50		20-36	7.9-10.0	4-14	0-1	1.0-4.0	15-25
	53-60	15-35		11-26	7.9-10.0	4-14	0-1	2.0-4.0	15-25
	60-65	15-25		12-19	7.9-10.0	4-14	0-1	2.0-4.0	15-25
242: Millox, partially drained-----	0-5	30-50		23-37	7.9-9.6	2-5	0-1	0.5-3.0	10-30
	5-19	30-50		23-36	7.9-9.6	2-5	0-1	0.5-5.0	20-35
	19-35	30-50		23-36	7.9-9.6	4-14	0-1	3.0-16.0	20-60
	35-53	26-50		20-36	7.9-10.0	4-14	0-1	3.0-16.0	40-100
	53-60	15-35		11-26	7.9-10.0	4-14	0-1	3.0-16.0	50-150
	60-65	15-25		12-19	7.9-10.0	4-14	0-1	4.0-16.0	60-150
Tennco-----	0-1	10-15		8.8-15	6.6-8.4	0-2	0	10.0-20.0	200-300
	1-5	4-10		3.5-8.3	9.0-11.0	0-2	0	10.0-20.0	200-500
	5-13	14-18		7.9-14	9.0-11.0	0-3	0	10.0-20.0	200-500
	13-18	5-10		4.2-8.3	9.0-11.0	0-3	0	10.0-20.0	200-600
	18-25	5-14		4.2-11	9.0-11.0	0-3	0	10.0-20.0	200-500
	25-45	10-18		7.9-14	9.0-11.0	0-3	0	0.5-20.0	5-100
	45-60	10-18		7.9-14	9.0-11.0	0-3	0	5.0-20.0	20-100

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
243: Millox, partially drained-----	0-5	30-50		23-37	7.9-9.6	2-5	0-1	0.5-3.0	2-5
	5-19	30-50		23-36	7.9-9.6	2-5	0-1	0.5-3.0	2-5
	19-35	30-50		23-36	7.9-9.6	4-14	0-1	1.0-4.0	2-5
	35-53	26-50		20-36	7.9-10.0	4-14	0-1	1.0-4.0	15-25
	53-60	15-35		11-26	7.9-10.0	4-14	0-1	2.0-4.0	15-25
	60-65	15-25		12-19	7.9-10.0	4-14	0-1	2.0-4.0	15-25
Zalvidea, partially drained-----	0-8	8-35		4.6-25	6.6-7.8	0-4	0-15	2.0-8.0	1-5
	8-23	8-18		1.1-7.4	6.6-7.8	0-5	30-55	2.0-8.0	1-5
	23-27	8-18		3.8-7.2	6.6-7.8	0-5	30-55	2.0-8.0	1-5
	27-37	8-18		1.1-7.4	6.6-7.8	0-5	30-55	2.0-8.0	1-5
	37-52	8-18		4.6-13	6.6-7.8	0-5	2-15	2.0-8.0	1-5
	52-65	4-30		3.4-19	6.6-7.8	0-4	0-15	2.0-8.0	1-5
	65-69	4-30		3.4-19	6.6-7.8	0-4	0-15	2.0-8.0	1-5
246: Whitewolf-----	0-11	5-10		4.0-7.8	6.1-8.4	0-2	0	0.1-1.0	1-3
	11-65	0-7		0.0-4.2	6.1-8.4	0-2	0	0.1-1.0	1-3
250: Oldriver-----	0-11	18-27		15-23	7.4-8.4	0-4	0-3	0.4-4.0	2-8
	11-16	6-50		5.5-38	7.9-9.0	0-4	0-3	0.5-4.0	2-8
	16-22	6-50		5.5-38	7.9-9.0	0-4	0-5	0.5-4.0	2-8
	22-30	6-50		5.4-37	7.9-9.0	0-4	0-5	0.5-4.0	2-8
	30-39	6-50		5.3-37	7.9-9.0	0-4	0-5	0.5-4.0	2-8
	39-49	6-50		5.1-36	7.9-9.0	0-4	0-5	0.5-4.0	2-8
	49-63	6-50		5.0-36	7.9-9.0	0-4	0-5	0.5-4.0	5-8
251: Oldriver, partially drained, sodic-----	0-11	18-27		15-23	7.4-8.4	0-4	0-3	2.0-8.0	2-15
	11-16	6-50		5.5-38	7.9-9.0	0-4	0-3	2.0-8.0	5-15
	16-22	6-50		5.5-38	7.9-9.0	0-4	0-5	2.0-15.0	10-20
	22-30	6-50		5.4-37	7.9-9.0	0-4	0-5	2.0-15.0	10-25
	30-39	6-50		5.3-37	7.9-9.0	0-4	0-5	2.0-15.0	10-25
	39-49	6-50		5.1-36	7.9-9.0	0-4	0-5	2.0-15.0	10-30
	49-63	6-50		5.0-36	7.9-9.0	0-4	0-5	2.0-10.0	5-20
260: Panoche-----	0-9	18-27		15-22	7.4-8.4	0-2	0	0.3-2.0	1-5
	9-23	18-35		15-27	7.4-8.4	1-5	0	0.3-2.0	1-5
	23-39	18-35		14-26	7.4-8.4	1-5	0	0.3-2.0	1-5
	39-60	18-35		13-26	7.4-8.4	1-5	0	0.3-2.0	1-5
270: Pits. Dumps.									
280: Premier-----	0-16	5-18		4.6-15	7.4-8.4	1-4	0	0.2-2.0	1-4
	16-60	5-18		4.3-14	7.4-8.4	1-4	0	0.2-2.0	1-4
281: Premier-----	0-16	5-18		4.6-15	7.4-8.4	1-4	0	0.2-2.0	1-4
	16-60	5-18		4.3-14	7.4-8.4	1-4	0	0.2-2.0	1-4
290: Riverwash.									

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
300: Tennco-----	0-1	10-15		8.8-15	6.6-8.4	0-2	0	10.0-20.0	200-300
	1-5	4-10		3.5-8.3	9.0-11.0	0-2	0	10.0-20.0	200-500
	5-13	14-18		7.9-14	9.0-11.0	0-3	0	10.0-20.0	200-500
	13-18	5-10		4.2-8.3	9.0-11.0	0-3	0	10.0-20.0	200-600
	18-25	5-14		4.2-11	9.0-11.0	0-3	0	10.0-20.0	200-500
	25-45	10-18		7.9-14	9.0-11.0	0-3	0	0.5-20.0	5-100
	45-60	10-18		7.9-14	9.0-11.0	0-3	0	5.0-20.0	20-100
310: Vineland, drained-----	0-6	2-6		1.8-4.9	6.6-8.4	0-2	0	0.2-0.7	1-5
	6-14	2-6		1.7-4.8	6.6-8.4	0-2	0	0.2-0.7	1-5
	14-22	2-6		1.6-4.7	6.6-8.4	0-2	0	0.2-0.7	1-5
	22-26	2-6		1.6-4.7	6.6-8.4	0-2	0	0.2-0.7	1-5
	26-38	2-10		1.7-7.4	6.6-8.4	0-2	0	0.2-0.7	1-5
	38-43	5-18		3.9-13	6.6-8.4	0-2	0	0.2-0.7	1-5
	43-54	3-10		2.3-7.4	6.6-8.4	0-2	0	0.2-0.7	1-5
	54-58	5-18		3.6-13	6.6-8.4	0-2	0	0.2-0.7	1-5
	58-64	3-15		2.3-11	6.6-8.4	0-2	0	0.2-0.7	1-5
312: Vineland, drained-----	0-6	2-6		1.8-4.9	6.6-8.4	0-2	0	0.2-0.7	1-5
	6-14	2-6		1.7-4.8	6.6-8.4	0-2	0	0.2-0.7	1-5
	14-22	2-6		1.6-4.7	6.6-8.4	0-2	0	0.2-0.7	1-5
	22-26	2-6		1.6-4.7	6.6-8.4	0-2	0	0.2-0.7	1-5
	26-38	2-10		1.7-7.4	6.6-8.4	0-2	0	0.2-0.7	1-5
	38-43	5-18		3.9-13	6.6-8.4	0-2	0	0.2-0.7	1-5
	43-54	3-10		2.3-7.4	6.6-8.4	0-2	0	0.2-0.7	1-5
	54-58	5-18		3.6-13	6.6-8.4	0-2	0	0.2-0.7	1-5
	58-64	3-15		2.3-11	6.6-8.4	0-2	0	0.2-0.7	1-5
Bakersfield, drained-----	0-3	5-18		4.8-16	6.1-6.5	0-2	0	0.5-3.0	2-12
	3-10	5-18		4.8-16	6.1-6.5	0-2	0	0.5-3.0	2-12
	10-16	5-18		4.6-16	6.6-7.3	0-2	0	0.5-3.0	2-12
	16-29	3-18		2.9-15	7.9-8.4	0-3	0	1.0-5.0	2-12
	29-45	3-18		2.7-15	7.9-8.4	0-3	0	1.0-5.0	2-12
	45-51	12-25		9.9-20	7.9-8.4	0-3	0	1.0-5.0	2-12
	51-58	18-27		14-22	7.9-8.4	0-3	0	1.0-5.0	2-12
	58-66	2-10		1.8-8.3	7.9-8.4	0-3	0	1.0-5.0	2-12
320: Wasco-----	0-7	8-18		6.9-15	6.6-8.4	0-1	0	0.3-2.0	1-4
	7-17	8-18		6.8-15	6.6-8.4	0-1	0	0.3-2.0	1-4
	17-25	8-18		6.6-14	6.6-8.4	0-2	0	0.3-2.0	1-4
	25-31	8-18		6.5-14	6.6-8.4	0-2	0	0.3-2.0	1-4
	31-64	8-18		6.2-14	6.6-8.4	0-2	0	0.3-2.0	1-4
330: Cuyama-----	0-5	8-18		6.6-15	7.4-8.4	0-4	0	0.1-2.0	1-2
	5-13	8-18		6.6-15	7.4-8.4	0-5	0-2	0.1-2.0	1-5
	13-28	10-25		7.6-20	7.9-9.0	2-8	0-2	1.0-4.0	3-12
	28-42	18-30		13-23	7.9-9.0	2-8	0-2	1.0-4.0	3-12
	42-58	2-18		1.8-14	7.9-9.0	2-4	0-2	1.0-4.0	3-12
	58-75	2-18		1.8-13	7.9-9.0	2-4	0-2	1.0-4.0	3-12

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
331: Cuyama-----	0-5	8-18		6.6-15	7.4-8.4	0-4	0	0.1-2.0	1-2
	5-13	8-18		6.6-15	7.4-8.4	0-5	0-2	0.1-2.0	1-5
	13-28	10-25		7.6-20	7.9-9.0	2-8	0-2	1.0-4.0	3-12
	28-42	18-30		13-23	7.9-9.0	2-8	0-2	1.0-4.0	3-12
	42-58	2-18		1.8-14	7.9-9.0	2-4	0-2	1.0-4.0	3-12
	58-75	2-18		1.8-13	7.9-9.0	2-4	0-2	1.0-4.0	3-12
332: Cuyama-----	0-5	8-18		6.6-15	7.4-8.4	0-4	0	0.1-2.0	1-2
	5-13	8-18		6.6-15	7.4-8.4	0-5	0-2	0.1-2.0	1-5
	13-28	10-25		7.6-20	7.9-9.0	2-8	0-2	1.0-4.0	3-12
	28-42	18-30		13-23	7.9-9.0	2-8	0-2	1.0-4.0	3-12
	42-58	2-18		1.8-14	7.9-9.0	2-4	0-2	1.0-4.0	3-12
	58-75	2-18		1.8-13	7.9-9.0	2-4	0-2	1.0-4.0	3-12
340: Weedpatch-----	0-8	20-35		16-28	7.9-9.0	5-15	0	0.5-8.0	3-12
	8-18	20-35		15-27	7.9-9.0	5-15	0	0.5-4.0	3-12
	18-24	20-35		15-26	7.9-9.0	15-30	0	0.5-8.0	3-12
	24-42	20-35		15-26	7.9-9.0	15-30	0	0.5-8.0	3-12
	42-47	20-35		14-26	7.9-9.0	15-30	0	0.5-8.0	3-20
	47-59	20-35		14-25	7.9-9.0	5-10	0	0.5-8.0	3-20
	59-64	20-35		14-25	7.9-9.0	5-10	0	0.5-4.0	3-20
350: Posochanet, saline-sodic-----	0-1	15-27		13-23	7.9-9.0	0-1	1-2	5.0-15.0	5-40
	1-6	15-35		12-28	8.4-9.0	0-2	1-4	15.0-28.0	50-140
	6-16	15-50		12-38	8.4-9.0	0-2	1-4	20.0-29.0	50-200
	16-26	15-50		12-37	7.9-9.3	0-2	1-2	15.0-28.0	50-140
	26-41	15-50		12-37	7.9-9.0	0-2	1-2	15.0-28.0	50-140
	41-54	10-50		7.9-36	7.9-9.0	0-2	5-15	15.0-28.0	50-140
	54-58	10-50		7.9-36	7.9-9.0	0-2	0-2	15.0-28.0	50-140
	58-62	10-50		7.9-36	7.9-9.0	0-2	0-2	15.0-28.0	50-140
351: Posochanet, saline-sodic-----	0-1	15-35		13-29	7.9-9.0	0-1	1-2	5.0-15.0	5-40
	1-6	15-35		12-28	8.4-9.0	0-2	1-4	15.0-28.0	50-140
	6-16	15-50		12-38	8.4-9.0	0-2	1-4	20.0-29.0	50-200
	16-26	15-50		12-37	7.9-9.3	0-2	1-2	15.0-28.0	50-140
	26-41	15-50		12-37	7.9-9.0	0-2	1-2	15.0-28.0	50-140
	41-54	10-50		7.9-36	7.9-9.0	0-2	5-15	15.0-28.0	50-140
	54-58	10-50		7.9-36	7.9-9.0	0-2	0-2	15.0-28.0	50-140
	58-62	10-50		7.9-36	7.9-9.0	0-2	0-2	15.0-28.0	50-140
352: Posochanet-----	0-1	15-27		13-23	7.9-9.0	0-1	1-2	5.0-15.0	5-40
	1-6	15-35		12-28	8.4-9.0	0-2	1-4	15.0-28.0	50-140
	6-16	15-50		12-38	8.4-9.0	0-2	1-4	20.0-29.0	50-200
	16-26	15-50		12-37	7.9-9.3	0-2	1-2	15.0-28.0	50-140
	26-41	15-50		12-37	7.9-9.0	0-2	1-2	15.0-28.0	50-140
	41-54	10-50		7.9-36	7.9-9.0	0-2	5-15	15.0-28.0	50-140
	54-58	10-50		7.9-36	7.9-9.0	0-2	0-2	15.0-28.0	50-140
	58-62	10-50		7.9-36	7.9-9.0	0-2	0-2	15.0-28.0	50-140

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct							
352: Posochanet, partially reclaimed---	0-1	15-27		13-23	7.9-8.4	0-1	1-2	2.0-13.0	5-20
	1-6	15-35		12-28	7.9-8.4	0-2	1-4	2.0-13.0	5-20
	6-16	15-50		12-38	7.9-8.4	0-2	1-4	2.0-13.0	5-20
	16-26	15-50		12-37	7.9-8.4	0-2	1-2	2.0-13.0	5-20
	26-41	15-50		12-37	7.9-8.4	0-2	1-2	2.0-13.0	5-20
	41-54	10-50		7.9-36	7.9-8.4	0-2	5-15	2.0-13.0	5-20
	54-58	10-50		7.9-36	7.9-8.4	0-2	0-2	2.0-13.0	5-20
	58-62	10-50		7.9-36	7.9-8.4	0-2	0-2	2.0-13.0	5-20
360: Wheelridge-----	0-7	2-8		1.8-6.5	6.6-8.4	0-2	0	0.3-2.0	2-8
	7-13	2-8		1.8-6.4	7.9-9.0	0-4	0	0.3-2.0	2-8
	13-27	2-8		1.4-6.1	7.9-9.0	2-4	0	0.4-2.0	2-8
	27-44	2-8		1.4-6.1	7.9-9.0	2-4	0	0.4-2.0	2-8
	44-65	1-5		0.8-4.0	7.9-9.0	2-4	0	0.4-2.0	2-8
370: Whitewolf-----	0-11	5-10		4.0-7.8	6.1-8.4	0-2	0	0.1-1.0	1-3
	11-65	0-7		0.0-4.2	6.1-8.4	0-2	0	0.1-1.0	1-3
371: Whitewolf-----	0-11	5-10		4.0-7.8	6.1-8.4	0-2	0	0.1-1.0	1-3
	11-65	0-7		0.0-4.2	6.1-8.4	0-2	0	0.1-1.0	1-3
380: Zalvidea, partially drained-----	0-8	8-35		4.6-25	6.6-7.8	0-4	0-15	2.0-8.0	1-5
	8-23	8-18		1.1-7.4	6.6-7.8	0-5	30-55	2.0-8.0	1-5
	23-27	8-18		3.8-7.2	6.6-7.8	0-5	30-55	2.0-8.0	1-5
	27-37	8-18		1.1-7.4	6.6-7.8	0-5	30-55	2.0-8.0	1-5
	37-52	8-18		4.6-13	6.6-7.8	0-5	2-15	2.0-8.0	1-5
	52-65	4-30		3.4-19	6.6-7.8	0-4	0-15	2.0-8.0	1-5
	65-69	4-30		3.4-19	6.6-7.8	0-4	0-15	2.0-8.0	1-5
381: Zalvidea, partially drained-----	0-8	8-35		4.6-25	6.6-7.8	0-4	0-15	2.0-8.0	1-5
	8-23	8-18		1.1-7.4	6.6-7.8	0-5	30-55	2.0-8.0	1-5
	23-27	8-18		3.8-7.2	6.6-7.8	0-5	30-55	2.0-8.0	1-5
	27-37	8-18		1.1-7.4	6.6-7.8	0-5	30-55	2.0-8.0	1-5
	37-52	8-18		4.6-13	6.6-7.8	0-5	2-15	2.0-8.0	1-5
	52-65	4-30		3.4-19	6.6-7.8	0-4	0-15	2.0-8.0	1-5
	65-69	4-30		3.4-19	6.6-7.8	0-4	0-15	2.0-8.0	1-5
389: Xerofluvents-----	0-4	8-18		6.2-13	6.6-7.8	0-2	0	0.3-3.0	2-5
	4-19	2-18		1.8-13	6.6-7.8	0-2	0	0.3-3.0	2-5
	19-31	2-18		1.6-13	6.6-7.8	0-2	0	0.3-3.0	2-5
	31-40	2-18		1.6-13	6.6-7.8	0-2	0	0.3-3.0	2-5
	40-53	2-18		1.6-12	6.6-7.8	0-2	0	0.3-3.0	2-5
	53-62	2-18		1.6-12	6.6-7.8	0-2	0	0.3-3.0	2-5
Haploxerepts-----	0-7	8-34		5.9-20	7.5-8.4	0-3	0-1	0.3-5.0	1-5
	7-20	8-34		5.6-19	7.5-8.4	2-4	0-1	0.3-5.0	1-5
	20-41	8-34		4.5-17	7.5-8.4	2-4	0-1	0.3-5.0	1-5
	41-60	8-34		4.1-16	7.5-8.4	2-4	0-1	0.3-5.0	1-5
Riverwash.									

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
390: Pleito-----	0-4	10-25		9.1-21	6.6-7.8	0-1	0	0.4-2.0	1-6
	4-8	10-25		8.9-21	7.4-7.8	0-1	0	0.4-2.0	1-6
	8-18	10-25		8.9-21	7.4-8.4	0-1	0	0.4-2.0	1-6
	18-25	10-25		8.6-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	25-32	10-25		8.5-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	32-46	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	46-56	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	56-64	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	64-80	10-25		7.9-19	7.9-8.4	2-7	0	0.4-2.0	1-6
391: Pleito-----	0-4	10-25		9.1-21	6.6-7.8	0-1	0	0.4-2.0	1-6
	4-8	10-25		8.9-21	7.4-7.8	0-1	0	0.4-2.0	1-6
	8-18	10-25		8.9-21	7.4-8.4	0-1	0	0.4-2.0	1-6
	18-25	10-25		8.6-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	25-32	10-25		8.5-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	32-46	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	46-56	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	56-64	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	64-80	10-25		7.9-19	7.9-8.4	2-7	0	0.4-2.0	1-6
392: Pleito-----	0-4	10-25		9.1-21	6.6-7.8	0-1	0	0.4-2.0	1-6
	4-8	10-25		8.9-21	7.4-7.8	0-1	0	0.4-2.0	1-6
	8-18	10-25		8.9-21	7.4-8.4	0-1	0	0.4-2.0	1-6
	18-25	10-25		8.6-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	25-32	10-25		8.5-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	32-46	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	46-56	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	56-64	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	64-80	10-25		7.9-19	7.9-8.4	2-7	0	0.4-2.0	1-6
393: Pleito-----	0-4	10-25		9.1-21	6.6-7.8	0-1	0	0.4-2.0	1-6
	4-8	10-25		8.9-21	7.4-7.8	0-1	0	0.4-2.0	1-6
	8-18	10-25		8.9-21	7.4-8.4	0-1	0	0.4-2.0	1-6
	18-25	10-25		8.6-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	25-32	10-25		8.5-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	32-46	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	46-56	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	56-64	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	64-80	10-25		7.9-19	7.9-8.4	2-7	0	0.4-2.0	1-6
394: Pleito-----	0-4	10-25		9.1-21	6.6-7.8	0-1	0	0.4-2.0	1-6
	4-8	10-25		8.9-21	7.4-7.8	0-1	0	0.4-2.0	1-6
	8-18	10-25		8.9-21	7.4-8.4	0-1	0	0.4-2.0	1-6
	18-25	10-25		8.6-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	25-32	10-25		8.5-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	32-46	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	46-56	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	56-64	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	64-80	10-25		7.9-19	7.9-8.4	2-7	0	0.4-2.0	1-6
Xeric Torriorthents, very gravelly	0-2	3-10		2.6-7.8	7.9-8.4	1-4	0-3	0.5-15.0	3-12
	2-7	3-10		2.4-7.4	7.9-8.4	1-4	0-3	0.5-15.0	3-12
	7-26	3-10		2.2-6.9	7.9-8.4	1-4	0-3	0.5-15.0	3-12
	26-36	---		---	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
395:									
Pleito-----	0-4	10-25		9.1-21	6.6-7.8	0-1	0	0.4-2.0	1-6
	4-8	10-25		8.9-21	7.4-7.8	0-1	0	0.4-2.0	1-6
	8-18	10-25		8.9-21	7.4-8.4	0-1	0	0.4-2.0	1-6
	18-25	10-25		8.6-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	25-32	10-25		8.5-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	32-46	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	46-56	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	56-64	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	64-80	10-25		7.9-19	7.9-8.4	2-7	0	0.4-2.0	1-6
Emidio-----	0-4	15-24		13-21	5.6-7.3	0	0	0.2-1.0	1-5
	4-16	15-24		13-20	5.6-7.3	0	0	0.2-1.0	1-6
	16-32	18-35		15-29	7.4-8.4	0-2	0-5	0.2-2.0	2-6
	32-41	18-35		15-29	7.4-8.4	0-2	0-5	0.2-2.0	2-6
	41-49	12-28		4.3-16	7.9-8.4	5-10	10-30	0.2-4.0	2-6
	49-65	12-28		4.3-16	7.9-8.4	5-10	10-30	0.2-4.0	2-6
Loslobos-----	0-2	6-18		5.7-16	7.4-8.4	1-5	0	0.3-2.0	1-8
	2-14	6-18		5.5-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	14-25	6-18		5.4-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	25-41	6-18		5.4-15	7.4-8.4	5-8	0	0.3-2.0	1-8
	41-54	6-18		5.1-14	7.4-8.4	5-8	0	0.3-2.0	1-8
	54-60	6-18		5.0-14	7.4-8.4	5-8	0	0.3-2.0	1-8
396:									
Pleito-----	0-4	10-25		9.1-21	6.6-7.8	0-1	0	0.4-2.0	1-6
	4-8	10-25		8.9-21	7.4-7.8	0-1	0	0.4-2.0	1-6
	8-18	10-25		8.9-21	7.4-8.4	0-1	0	0.4-2.0	1-6
	18-25	10-25		8.6-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	25-32	10-25		8.5-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	32-46	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	46-56	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	56-64	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	64-80	10-25		7.9-19	7.9-8.4	2-7	0	0.4-2.0	1-6
Loslobos-----	0-2	6-18		5.7-16	7.4-8.4	1-5	0	0.3-2.0	1-8
	2-14	6-18		5.5-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	14-25	6-18		5.4-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	25-41	6-18		5.4-15	7.4-8.4	5-8	0	0.3-2.0	1-8
	41-54	6-18		5.1-14	7.4-8.4	5-8	0	0.3-2.0	1-8
	54-60	6-18		5.0-14	7.4-8.4	5-8	0	0.3-2.0	1-8
398:									
Calcic Haploxerepts-----	0-4	20-35		17-29	6.1-8.4	1-2	0-5	0.2-5.0	2-10
	4-9	20-35		11-24	6.1-8.4	1-8	0-8	0.2-5.0	2-10
	9-18	20-35		11-24	6.1-8.4	1-8	0-8	0.2-5.0	2-10
	18-25	20-35		11-24	6.1-8.4	1-8	0-8	0.2-5.0	2-10
	25-37	20-35		13-24	6.1-8.4	1-8	0-10	0.2-5.0	2-10
	37-60	20-35		15-26	6.1-8.4	1-8	0-5	0.2-5.0	2-10
Calcic Pachic Argixerolls, fine---	0-6	28-40		21-31	6.6-7.8	0-2	0	0.2-1.0	1-3
	6-21	28-40		20-29	6.6-7.8	1-2	0	0.2-1.0	1-3
	21-44	28-50		20-32	6.6-7.8	1-8	0	0.2-1.0	1-3
	44-56	28-50		19-32	6.6-7.8	1-8	0	0.2-1.0	1-3
	56-64	28-50		19-32	6.6-7.8	1-8	0	0.2-1.0	1-3
Xerorthents, shallow-----	0-8	20-34		14-22	7.4-9.0	0-2	0-1	1.0-5.0	4-15
	8-13	5-19		3.4-12	7.4-9.0	0-4	0-1	1.0-4.0	4-15
	13-23	---		---	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
400:									
Loslobos-----	0-2	6-18		5.7-16	7.4-8.4	1-5	0	0.3-2.0	1-8
	2-14	6-18		5.5-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	14-25	6-18		5.4-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	25-41	6-18		5.4-15	7.4-8.4	5-8	0	0.3-2.0	1-8
	41-54	6-18		5.1-14	7.4-8.4	5-8	0	0.3-2.0	1-8
	54-60	6-18		5.0-14	7.4-8.4	5-8	0	0.3-2.0	1-8
Xeric Torriorthents, very gravelly	0-2	3-10		2.6-7.8	7.9-8.4	1-4	0-3	0.5-15.0	3-12
	2-7	3-10		2.4-7.4	7.9-8.4	1-4	0-3	0.5-15.0	3-12
	7-26	3-10		2.2-6.9	7.9-8.4	1-4	0-3	0.5-15.0	3-12
	26-36	---		---	---	---	---	---	---
Badlands.									
401:									
Loslobos-----	0-2	6-18		5.7-16	7.4-8.4	1-5	0	0.3-2.0	1-8
	2-14	6-18		5.5-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	14-25	6-18		5.4-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	25-41	6-18		5.4-15	7.4-8.4	5-8	0	0.3-2.0	1-8
	41-54	6-18		5.1-14	7.4-8.4	5-8	0	0.3-2.0	1-8
	54-60	6-18		5.0-14	7.4-8.4	5-8	0	0.3-2.0	1-8
402:									
Loslobos-----	0-2	6-18		5.7-16	7.4-8.4	1-5	0	0.3-2.0	1-8
	2-14	6-18		5.5-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	14-25	6-18		5.4-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	25-41	6-18		5.4-15	7.4-8.4	5-8	0	0.3-2.0	1-8
	41-54	6-18		5.1-14	7.4-8.4	5-8	0	0.3-2.0	1-8
	54-60	6-18		5.0-14	7.4-8.4	5-8	0	0.3-2.0	1-8
Walong-----	0-3	7-18		6.4-16	6.6-7.8	0	0	0.1-0.4	1-4
	3-12	7-18		6.4-15	6.6-7.8	0	0	0.1-0.4	1-4
	12-29	7-18		6.1-15	6.6-7.8	0	0	0.1-0.4	1-4
	29-39	---		---	---	---	---	---	---
403:									
Loslobos-----	0-2	6-18		5.7-16	7.4-8.4	1-5	0	0.3-2.0	1-8
	2-14	6-18		5.5-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	14-25	6-18		5.4-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	25-41	6-18		5.4-15	7.4-8.4	5-8	0	0.3-2.0	1-8
	41-54	6-18		5.1-14	7.4-8.4	5-8	0	0.3-2.0	1-8
	54-60	6-18		5.0-14	7.4-8.4	5-8	0	0.3-2.0	1-8
Calleguas-----	0-7	20-35		17-28	7.9-8.4	1-5	0	0.5-2.0	2-6
	7-15	20-35		16-27	7.9-8.4	1-5	0	0.5-2.0	2-6
	15-60	---		---	---	---	---	---	---
404:									
Loslobos, moist-----	0-2	6-18		5.7-16	7.4-8.4	1-5	0	0.3-2.0	1-8
	2-14	6-18		5.5-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	14-25	6-18		5.4-15	7.4-8.4	1-6	0	0.3-2.0	1-8
	25-41	6-18		5.4-15	7.4-8.4	5-8	0	0.3-2.0	1-8
	41-54	6-18		5.1-14	7.4-8.4	5-8	0	0.3-2.0	1-8
	54-60	6-18		5.0-14	7.4-8.4	5-8	0	0.3-2.0	1-8

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
430:									
Littlesignal-----	0-3	10-20		9.3-18	7.4-8.4	3-10	0-10	1.0-5.0	1-8
	3-11	10-20		8.8-17	7.4-8.4	3-10	0-10	1.0-5.0	1-8
	11-20	10-20		5.0-13	7.4-8.4	3-10	5-15	1.0-5.0	1-8
	20-25	2-10		0.7-6.5	7.4-8.4	3-10	10-40	1.0-5.0	1-8
	25-35	2-10		1.3-7.2	7.4-8.4	3-10	5-15	2.0-5.0	1-8
	35-52	2-10		0.4-6.9	7.4-8.4	1-10	10-40	2.0-10.0	5-15
	52-60	---		---	---	---	---	---	---
Cochora-----	0-2	10-18		7.6-15	7.4-8.4	0-5	0-1	0.2-2.0	1-5
	2-9	10-18		7.6-15	7.4-8.4	1-5	0-1	0.2-2.0	1-5
	9-15	3-10		2.6-8.3	7.4-8.4	1-5	0-1	0.2-2.0	1-5
	15-25	---		---	---	---	---	---	---
431:									
Littlesignal-----	0-3	10-20		9.3-18	7.4-8.4	3-10	0-10	1.0-5.0	1-8
	3-11	10-20		8.8-17	7.4-8.4	3-10	0-10	1.0-5.0	1-8
	11-20	10-20		5.0-13	7.4-8.4	3-10	5-15	1.0-5.0	1-8
	20-25	2-10		0.7-6.5	7.4-8.4	3-10	10-40	1.0-5.0	1-8
	25-35	2-10		1.3-7.2	7.4-8.4	3-10	5-15	2.0-5.0	1-8
	35-52	2-10		0.4-6.9	7.4-8.4	1-10	10-40	2.0-10.0	5-15
	52-60	---		---	---	---	---	---	---
Cochora-----	0-2	10-18		7.6-15	7.4-8.4	0-5	0-1	0.2-2.0	1-5
	2-9	10-18		7.6-15	7.4-8.4	1-5	0-1	0.2-2.0	1-5
	9-15	3-10		2.6-8.3	7.4-8.4	1-5	0-1	0.2-2.0	1-5
	15-25	---		---	---	---	---	---	---
432:									
Littlesignal-----	0-3	10-20		9.3-18	7.4-8.4	3-10	0-10	1.0-5.0	1-8
	3-11	10-20		8.8-17	7.4-8.4	3-10	0-10	1.0-5.0	1-8
	11-20	10-20		5.0-13	7.4-8.4	3-10	5-15	1.0-5.0	1-8
	20-25	2-10		0.7-6.5	7.4-8.4	3-10	10-40	1.0-5.0	1-8
	25-35	2-10		1.3-7.2	7.4-8.4	3-10	5-15	2.0-5.0	1-8
	35-52	2-10		0.4-6.9	7.4-8.4	1-10	10-40	2.0-10.0	5-15
	52-60	---		---	---	---	---	---	---
Badlands.									
Cochora-----	0-2	10-18		7.6-15	7.4-8.4	0-5	0-1	0.2-2.0	1-5
	2-9	10-18		7.6-15	7.4-8.4	1-5	0-1	0.2-2.0	1-5
	9-15	3-10		2.6-8.3	7.4-8.4	1-5	0-1	0.2-2.0	1-5
	15-25	---		---	---	---	---	---	---
440:									
Elkhills-----	0-4	7-18		6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18		6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18		6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18		6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18		5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10		2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
Pyxo-----	0-5	10-18		8.3-15	7.9-8.4	1-2	0	0.4-2.0	2-8
	5-12	10-18		8.1-15	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	12-22	10-18		8.1-14	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	22-30	10-18		7.9-14	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	30-40	---		---	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-	Soil	Calcium	Gypsum	Salinity	Sodium
	In	Pct	exchange capacity	reaction	carbonate	Pct	dS/m	adsorption ratio
			meq/100g	pH	Pct	Pct		
441: Sodic Haplocambids, thick-----	0-3	7-18	6.9-17	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	3-12	7-18	5.8-15	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	12-18	7-18	5.1-15	7.9-9.0	1-3	0-2	4.0-16.0	13-26
	18-24	7-50	4.9-33	7.9-9.0	1-3	0-2	4.0-16.0	13-40
	24-27	8-50	5.0-32	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	27-42	10-50	5.7-30	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	42-54	15-50	7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	54-61	15-50	7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
442: Elkhills-----	0-4	7-18	6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18	6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18	5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10	2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
443: Elkhills-----	0-4	7-18	6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18	6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18	5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10	2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
Badlands.								
444: Elkhills-----	0-4	7-18	6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18	6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18	5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10	2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
445: Sodic Haplocambids, thick-----	0-3	7-18	6.9-17	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	3-12	7-18	5.8-15	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	12-18	7-18	5.1-15	7.9-9.0	1-3	0-2	4.0-16.0	13-26
	18-24	7-50	4.9-33	7.9-9.0	1-3	0-2	4.0-16.0	13-40
	24-27	8-50	5.0-32	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	27-42	10-50	5.7-30	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	42-54	15-50	7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	54-61	15-50	7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
Elkhills-----	0-4	7-18	6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18	6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18	5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10	2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
451: Beam-----	0-4	12-25	10-20	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	4-15	12-25	9.8-20	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	15-25	---	---	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	dS/m	
451: Panoza-----	0-6	18-25	15-20	7.9-8.4	1-5	0-1	0.5-2.0	1-5
	6-18	18-25	14-20	7.9-8.4	1-5	0-1	2.0-4.0	1-5
	18-24	18-25	13-19	7.9-8.4	1-8	0-1	2.0-4.0	1-5
	24-34	---	---	---	---	---	---	---
Hillbrick-----	0-4	10-18	7.6-15	7.9-8.4	1-5	0	0.2-2.0	1-3
	4-15	10-18	7.6-14	7.9-8.4	1-5	0	0.2-2.0	1-3
	15-25	---	---	---	---	---	---	---
460: Geghus-----	0-2	12-25	11-21	7.4-8.4	0-1	0	0.2-1.0	1-5
	2-6	12-25	11-21	7.4-8.4	0-1	0	0.2-1.0	1-5
	6-15	12-40	10-31	7.4-8.4	0-1	0	0.2-1.0	1-5
	15-29	20-40	16-31	7.4-8.4	1-2	0	0.2-1.0	1-5
	29-44	20-40	16-31	7.4-8.4	1-2	0	0.2-1.0	1-5
	44-54	20-40	16-30	7.4-8.4	1-2	0	0.2-1.0	1-5
	54-62	20-40	15-30	7.4-8.4	1-2	0	0.2-1.0	1-5
Tecuya-----	0-3	5-18	4.8-16	7.4-9.0	2-5	0	0.2-1.0	2-4
	3-9	5-18	4.7-15	7.4-9.0	2-5	0	0.2-1.0	2-4
	9-28	10-30	8.6-24	7.4-9.0	5-10	0	0.2-1.0	2-4
	28-38	18-30	14-23	7.4-9.0	5-10	0	0.2-1.0	2-4
	38-60	18-30	14-23	7.4-9.0	5-10	0	0.2-1.0	2-4
461: Geghus-----	0-2	12-25	11-21	7.4-8.4	0-1	0	0.2-1.0	1-5
	2-6	12-25	11-21	7.4-8.4	0-1	0	0.2-1.0	1-5
	6-15	12-40	10-31	7.4-8.4	0-1	0	0.2-1.0	1-5
	15-29	20-40	16-31	7.4-8.4	1-2	0	0.2-1.0	1-5
	29-44	20-40	16-31	7.4-8.4	1-2	0	0.2-1.0	1-5
	44-54	20-40	16-30	7.4-8.4	1-2	0	0.2-1.0	1-5
	54-62	20-40	15-30	7.4-8.4	1-2	0	0.2-1.0	1-5
Tecuya-----	0-3	5-18	4.8-16	7.4-9.0	2-5	0	0.2-1.0	2-4
	3-9	5-18	4.7-15	7.4-9.0	2-5	0	0.2-1.0	2-4
	9-28	10-30	8.6-24	7.4-9.0	5-10	0	0.2-1.0	2-4
	28-38	18-30	14-23	7.4-9.0	5-10	0	0.2-1.0	2-4
	38-60	18-30	14-23	7.4-9.0	5-10	0	0.2-1.0	2-4
462: Geghus-----	0-2	12-25	11-21	7.4-8.4	0-1	0	0.2-1.0	1-5
	2-6	12-25	11-21	7.4-8.4	0-1	0	0.2-1.0	1-5
	6-15	12-40	10-31	7.4-8.4	0-1	0	0.2-1.0	1-5
	15-29	20-40	16-31	7.4-8.4	1-2	0	0.2-1.0	1-5
	29-44	20-40	16-31	7.4-8.4	1-2	0	0.2-1.0	1-5
	44-54	20-40	16-30	7.4-8.4	1-2	0	0.2-1.0	1-5
	54-62	20-40	15-30	7.4-8.4	1-2	0	0.2-1.0	1-5
Xeric Torriorthents, very gravelly	0-2	3-10	2.6-7.8	7.9-8.4	1-4	0-3	0.5-15.0	3-12
	2-7	3-10	2.4-7.4	7.9-8.4	1-4	0-3	0.5-15.0	3-12
	7-26	3-10	2.2-6.9	7.9-8.4	1-4	0-3	0.5-15.0	3-12
	26-36	---	---	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	dS/m	
470:								
Pyxo-----	0-5	10-18	8.3-15	7.9-8.4	1-2	0	0.4-2.0	2-8
	5-12	10-18	8.1-15	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	12-22	10-18	8.1-14	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	22-30	10-18	7.9-14	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	30-40	---	---	---	---	---	---	---
Cochora-----	0-2	8-18	6.2-15	7.4-8.4	0-5	0-1	0.2-2.0	1-5
	2-9	8-18	6.8-15	7.4-8.4	1-5	0-1	0.2-2.0	1-5
	9-15	5-18	4.2-14	7.4-8.4	1-5	0-1	0.2-2.0	1-5
	15-25	---	---	---	---	---	---	---
471:								
Pyxo-----	0-5	10-18	8.3-15	7.9-8.4	1-2	0	0.4-2.0	2-8
	5-12	10-18	8.1-15	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	12-22	10-18	8.1-14	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	22-30	10-18	7.9-14	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	30-40	---	---	---	---	---	---	---
Cochora-----	0-2	8-18	6.9-15	7.4-8.4	0-5	0-1	0.2-2.0	1-5
	2-9	8-18	6.8-15	7.4-8.4	1-5	0-1	0.2-2.0	1-5
	9-15	5-18	4.2-14	7.4-8.4	1-5	0-1	0.2-2.0	1-5
	15-25	---	---	---	---	---	---	---
Badlands.								
472:								
Pyxo-----	0-5	10-18	8.3-15	7.9-8.4	1-2	0	0.4-2.0	2-8
	5-12	10-18	8.1-15	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	12-22	10-18	8.1-14	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	22-30	10-18	7.9-14	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	30-40	---	---	---	---	---	---	---
Kimberlina-----	0-10	6-18	5.5-15	7.4-8.4	1-5	0	0.3-2.0	1-4
	10-19	6-18	5.4-15	7.4-8.4	1-5	0	0.3-4.0	1-4
	19-28	6-18	5.3-15	7.4-8.4	1-5	0	0.3-4.0	1-4
	28-45	6-18	5.1-14	7.4-8.4	1-5	0	0.3-4.0	1-4
	45-60	6-18	5.0-14	7.4-8.4	1-5	0	0.3-4.0	1-4
Cochora-----	0-2	10-18	7.6-15	7.4-8.4	0-5	0-1	0.2-2.0	1-5
	2-9	10-18	7.6-15	7.4-8.4	1-5	0-1	0.2-2.0	1-5
	9-15	3-10	2.6-8.3	7.4-8.4	1-5	0-1	0.2-2.0	1-5
	15-25	---	---	---	---	---	---	---
480:								
Pyxo, dry-----	0-5	10-18	8.3-15	7.9-8.4	1-2	0	0.4-2.0	2-8
	5-12	10-18	8.1-15	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	12-22	10-18	8.1-14	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	22-30	10-18	7.9-14	7.9-9.0	2-4	0-1	0.4-2.0	2-8
	30-40	---	---	---	---	---	---	---
Elkhills-----	0-4	7-18	6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18	6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18	5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10	2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
490: Padres-----	0-3	8-18		7.1-15	7.9-8.4	1-5	0-1	0.5-3.0	1-10
	3-16	8-18		6.8-15	7.9-8.4	1-5	0-1	0.5-3.0	1-10
	16-30	8-18		6.2-14	7.9-8.4	2-7	0-1	1.0-4.0	1-10
	30-38	8-18		6.2-14	7.9-8.4	2-7	0	2.0-4.0	1-10
	38-46	8-18		6.2-14	7.9-8.4	2-7	0	2.0-4.0	1-10
	46-62	8-18		6.2-14	7.9-8.4	2-7	0	2.0-4.0	1-10
500: Bitcreek-----	0-3	19-35		16-29	6.1-7.3	0	0	0.2-2.0	2-6
	3-8	19-35		16-28	6.1-7.3	0	0	0.2-2.0	2-6
	8-19	19-35		15-28	6.1-7.3	0	0	0.2-2.0	2-6
	19-31	19-35		15-27	6.1-7.3	0	0	0.2-2.0	2-6
	31-38	19-35		14-27	6.1-7.3	0	0	0.2-2.0	2-6
	38-60	19-55		14-39	6.1-7.3	0	0	0.2-2.0	2-6
510: Beam-----	0-4	12-25		10-20	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	4-15	12-25		9.8-20	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	15-25	---		---	---	---	---	---	---
Panoza-----	0-6	18-25		15-20	7.9-8.4	1-5	0-1	0.5-2.0	1-5
	6-18	18-25		14-20	7.9-8.4	1-5	0-1	2.0-4.0	1-5
	18-24	18-25		13-19	7.9-8.4	1-8	0-1	2.0-4.0	1-5
	24-34	---		---	---	---	---	---	---
Hillbrick-----	0-4	10-18		7.6-15	7.9-8.4	1-5	0	0.2-2.0	1-3
	4-15	10-18		7.6-14	7.9-8.4	1-5	0	0.2-2.0	1-3
	15-25	---		---	---	---	---	---	---
511: Beam-----	0-4	12-25		10-20	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	4-15	12-25		9.8-20	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	15-25	---		---	---	---	---	---	---
Panoza-----	0-6	18-25		15-20	7.9-8.4	1-5	0-1	0.5-2.0	1-5
	6-18	18-25		14-20	7.9-8.4	1-5	0-1	2.0-4.0	1-5
	18-24	18-25		13-19	7.9-8.4	1-8	0-1	2.0-4.0	1-5
	24-34	---		---	---	---	---	---	---
Hillbrick-----	0-4	10-18		7.6-15	7.9-8.4	1-5	0	0.2-2.0	1-3
	4-15	10-18		7.6-14	7.9-8.4	1-5	0	0.2-2.0	1-3
	15-25	---		---	---	---	---	---	---
515: Zonap-----	0-3	10-18		8.8-15	6.6-8.4	0-3	0	0.5-4.0	1-5
	3-10	10-18		8.5-15	7.9-8.4	1-3	0	1.0-4.0	1-5
	10-26	10-18		7.9-14	7.9-8.4	1-3	0	1.0-4.0	1-7
	26-36	---		---	---	---	---	---	---
Badlands. Beam-----	0-3	8-18		7.1-15	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	3-15	8-18		6.8-15	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	15-25	---		---	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct							
516: Zonap-----	0-3	10-18	8.8-15	6.6-8.4	0-3	0	0.5-4.0	1-5	
	3-10	10-18	8.5-15	7.9-8.4	1-3	0	1.0-4.0	1-5	
	10-26	10-18	7.9-14	7.9-8.4	1-3	0	1.0-4.0	1-7	
	26-36	---	---	---	---	---	---	---	
Beam-----	0-3	8-18	7.1-15	7.9-8.4	1-4	0-2	0.5-4.0	1-8	
	3-15	8-18	6.8-15	7.9-8.4	1-4	0-2	0.5-4.0	1-8	
	15-25	---	---	---	---	---	---	---	
530: Tehachapi-----	0-1	15-25	13-21	6.0-7.3	0	0	0.1-1.0	1-4	
	1-5	20-35	17-28	6.0-7.3	0	0	0.1-1.0	1-4	
	5-19	20-35	16-28	6.0-7.3	0	0	0.1-1.0	1-4	
	19-24	20-35	16-27	6.0-7.3	0	0	0.1-1.0	1-4	
	24-34	20-35	16-27	7.4-8.4	0-2	0	0.1-1.0	1-4	
	34-48	20-35	15-26	7.4-8.4	0-2	0	0.1-1.0	1-4	
	48-60	20-35	15-26	7.4-8.4	0-2	0	0.1-1.0	1-4	
531: Tehachapi-----	0-1	15-25	13-21	6.0-7.3	0	0	0.1-1.0	1-4	
	1-5	20-35	17-28	6.0-7.3	0	0	0.1-1.0	1-4	
	5-19	20-35	16-28	6.0-7.3	0	0	0.1-1.0	1-4	
	19-24	20-35	16-27	6.0-7.3	0	0	0.1-1.0	1-4	
	24-34	20-35	16-27	7.4-8.4	0-2	0	0.1-1.0	1-4	
	34-48	20-35	15-26	7.4-8.4	0-2	0	0.1-1.0	1-4	
	48-60	20-35	15-26	7.4-8.4	0-2	0	0.1-1.0	1-4	
540: Xeric Torriorthents-----	0-10	10-15	7.4-11	7.9-8.4	1-4	0	0.3-2.0	2-5	
	10-24	10-20	5.7-10	7.9-8.4	1-4	0	0.3-2.0	2-5	
	24-43	10-20	5.7-10	7.9-8.4	1-4	0	0.3-2.0	2-5	
	43-53	---	---	---	---	---	---	---	
Badlands.									
550: Elkhills-----	0-4	7-18	6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6	
	4-10	7-18	6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6	
	10-27	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6	
	27-34	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6	
	34-52	7-18	5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6	
	52-65	3-10	2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6	
Welport-----	0-3	5-18	4.8-16	7.9-9.0	1-5	0	0.5-4.0	2-12	
	3-9	5-18	4.6-15	7.9-9.0	1-5	0	0.5-4.0	2-12	
	9-12	5-18	4.2-14	7.9-9.0	1-5	0	0.5-4.0	2-12	
	12-27	---	---	---	15-30	0	0	0	
	27-60	5-18	4.0-14	7.9-9.0	10-25	0	0.5-4.0	2-12	
560: Laval-----	0-4	10-18	8.0-14	7.4-9.0	0	0	0.3-1.0	1-10	
	4-13	4-18	3.4-14	7.9-9.0	0	0	0.3-1.0	1-10	
	13-20	4-18	2.9-13	7.9-9.0	0	0	0.3-1.0	1-10	
	20-23	4-10	2.4-6.9	7.9-9.0	0	0	0.3-1.0	1-10	
	23-32	4-10	2.8-6.9	7.9-9.0	0	0	0.3-1.0	1-10	
	32-48	4-10	2.8-7.1	7.9-9.0	0	0	0.3-1.0	1-10	
	48-62	4-10	2.8-6.9	7.9-9.0	0	0	0.3-1.0	1-10	

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
560:									
Pleitito-----	0-3	3-10		3.0-9.0	7.4-8.4	1-3	0	0.2-1.0	1-5
	3-8	3-10		2.8-8.7	7.4-8.4	1-3	0	0.2-1.0	1-5
	8-11	3-10		2.8-8.7	7.4-8.4	1-3	0	0.2-1.0	1-5
	11-18	2-5		2.0-4.7	7.4-8.4	1-3	0	0.2-1.0	1-5
	18-21	2-5		2.0-4.6	7.4-8.4	1-3	0	0.2-1.0	1-5
	21-29	5-10		4.5-8.9	7.4-8.4	1-3	0	0.2-1.0	1-5
	29-48	5-10		4.0-8.3	7.4-8.4	1-3	0	0.2-1.0	1-5
	48-65	5-10		4.0-8.1	7.4-8.4	1-3	0	0.2-1.0	1-5
561:									
Laval-----	0-4	10-18		8.0-14	7.4-9.0	0	0	0.3-1.0	1-10
	4-13	4-18		3.4-14	7.9-9.0	0	0	0.3-1.0	1-10
	13-20	4-18		2.9-13	7.9-9.0	0	0	0.3-1.0	1-10
	20-23	4-10		2.4-6.9	7.9-9.0	0	0	0.3-1.0	1-10
	23-32	4-10		2.8-6.9	7.9-9.0	0	0	0.3-1.0	1-10
	32-48	4-10		2.8-7.1	7.9-9.0	0	0	0.3-1.0	1-10
	48-62	4-10		2.8-6.9	7.9-9.0	0	0	0.3-1.0	1-10
Pleitito-----	0-3	3-10		3.0-9.0	7.4-8.4	1-3	0	0.2-1.0	1-5
	3-8	3-10		2.8-8.7	7.4-8.4	1-3	0	0.2-1.0	1-5
	8-11	3-10		2.8-8.7	7.4-8.4	1-3	0	0.2-1.0	1-5
	11-18	2-5		2.0-4.7	7.4-8.4	1-3	0	0.2-1.0	1-5
	18-21	2-5		2.0-4.6	7.4-8.4	1-3	0	0.2-1.0	1-5
	21-29	5-10		4.5-8.9	7.4-8.4	1-3	0	0.2-1.0	1-5
	29-48	5-10		4.0-8.3	7.4-8.4	1-3	0	0.2-1.0	1-5
	48-65	5-10		4.0-8.1	7.4-8.4	1-3	0	0.2-1.0	1-5
570:									
Hillbrick-----	0-4	10-18		7.6-15	7.9-8.4	1-5	0	0.2-2.0	1-3
	4-15	10-18		7.6-14	7.9-8.4	1-5	0	0.2-2.0	1-3
	15-25	---		---	---	---	---	---	---
Rock outcrop.									
571:									
Hillbrick-----	0-4	10-18		7.6-15	7.9-8.4	1-5	0	0.2-2.0	1-3
	4-15	10-18		7.6-14	7.9-8.4	1-5	0	0.2-2.0	1-3
	15-25	---		---	---	---	---	---	---
Rock outcrop.									
580:									
Reward-----	0-24	18-25		15-21	7.9-8.4	1-4	0	0.2-2.0	1-4
	24-39	20-27		16-21	7.9-8.4	2-4	0	0.2-2.0	1-4
	39-60	26-30		19-22	7.9-8.4	2-4	0	0.0-2.0	1-4
	60-70	---		---	---	---	---	---	---
Hillbrick-----	0-2	10-18		7.6-15	7.4-9.0	1-5	0	0.2-2.0	1-3
	2-6	10-18		7.6-15	7.4-9.0	1-5	0	0.2-2.0	1-3
	6-15	10-18		7.6-15	7.4-9.0	1-5	0	0.2-2.0	1-3
	15-25	---		---	---	---	---	---	---
581:									
Reward-----	0-24	18-25		15-21	7.9-8.4	1-4	0	0.2-2.0	1-4
	24-39	20-27		16-21	7.9-8.4	2-4	0	0.2-2.0	1-4
	39-60	26-30		19-22	7.9-8.4	2-4	0	0.0-2.0	1-4
	60-70	---		---	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	dS/m	
583: Bellyspring-----	0-3	10-18	8.6-15	7.4-7.8	0	0	0.5-2.0	2-4
	3-13	10-25	8.5-20	7.4-7.8	0	0	0.5-2.0	2-4
	13-23	28-35	21-30	7.9-8.4	0	0	0.5-2.0	2-4
	23-38	8-18	6.5-14	7.9-8.4	1-4	0	0.5-2.0	2-4
	38-40	---	---	---	---	---	---	---
Panoza-----	0-6	18-25	15-20	7.9-8.4	1-5	0-1	0.5-2.0	1-5
	6-18	18-25	14-20	7.9-8.4	1-5	0-1	2.0-4.0	1-5
	18-24	18-25	13-19	7.9-8.4	1-8	0-1	2.0-4.0	1-5
	24-34	---	---	---	---	---	---	---
584: Bellyspring-----	0-3	10-18	8.6-15	7.4-7.8	0	0	0.5-2.0	2-4
	3-13	10-25	8.5-20	7.4-7.8	0	0	0.5-2.0	2-4
	13-23	28-35	21-30	7.9-8.4	0	0	0.5-2.0	2-4
	23-38	8-18	6.5-14	7.9-8.4	1-4	0	0.5-2.0	2-4
	38-40	---	---	---	---	---	---	---
Panoza-----	0-6	18-25	15-20	7.9-8.4	1-5	0-1	0.5-2.0	1-5
	6-18	18-25	14-20	7.9-8.4	1-5	0-1	2.0-4.0	1-5
	18-24	18-25	13-19	7.9-8.4	1-8	0-1	2.0-4.0	1-5
	24-34	---	---	---	---	---	---	---
585: Bellyspring-----	0-3	10-18	8.6-15	7.4-7.8	0	0	0.5-2.0	2-4
	3-13	10-25	8.5-20	7.4-7.8	0	0	0.5-2.0	2-4
	13-23	28-35	21-30	7.9-8.4	0	0	0.5-2.0	2-4
	23-38	8-18	6.5-14	7.9-8.4	1-4	0	0.5-2.0	2-4
	38-40	---	---	---	---	---	---	---
Panoza-----	0-6	18-25	15-20	7.9-8.4	1-5	0-1	0.5-2.0	1-5
	6-18	18-25	14-20	7.9-8.4	1-5	0-1	2.0-4.0	1-5
	18-24	18-25	13-19	7.9-8.4	1-8	0-1	2.0-4.0	1-5
	24-34	---	---	---	---	---	---	---
586: Panoza-----	0-6	18-25	15-20	7.9-8.4	1-5	0-1	0.5-2.0	1-5
	6-18	18-25	14-20	7.9-8.4	1-5	0-1	2.0-4.0	1-5
	18-24	18-25	13-19	7.9-8.4	1-8	0-1	2.0-4.0	1-5
	24-34	---	---	---	---	---	---	---
Beam-----	0-4	12-25	10-20	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	4-15	12-25	9.8-20	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	15-25	---	---	---	---	---	---	---
587: Panoza-----	0-6	18-25	15-20	7.9-8.4	1-5	0-1	0.5-2.0	1-5
	6-18	18-25	14-20	7.9-8.4	1-5	0-1	2.0-4.0	1-5
	18-24	18-25	13-19	7.9-8.4	1-8	0-1	2.0-4.0	1-5
	24-34	---	---	---	---	---	---	---
Beam-----	0-4	12-25	10-20	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	4-15	12-25	9.8-20	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	15-25	---	---	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
588:									
Panoza-----	0-6	18-25		15-20	7.9-8.4	1-5	0-1	0.5-2.0	1-5
	6-18	18-25		14-20	7.9-8.4	1-5	0-1	2.0-4.0	1-5
	18-24	18-25		13-19	7.9-8.4	1-8	0-1	2.0-4.0	1-5
	24-34	---		---	---	---	---	---	---
Beam-----	0-4	12-25		10-20	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	4-15	12-25		9.8-20	7.9-8.4	1-4	0-2	0.5-4.0	1-8
	15-25	---		---	---	---	---	---	---
590:									
Gorman-----	0-7	10-20		9.1-18	6.1-7.8	0	0	0.1-0.3	0-3
	7-15	10-20		8.9-17	6.1-7.8	0	0	0.1-0.3	0-3
	15-23	10-27		8.8-22	6.1-7.8	0	0	0.1-0.3	0-3
	23-37	20-35		16-27	6.1-7.8	0	0	0.1-0.3	0-3
	37-48	20-35		16-27	6.1-7.8	0	0	0.1-0.3	0-3
	48-61	20-35		15-26	6.1-7.8	0	0	0.1-0.3	0-3
Typic Xerorthents, mesic-----	0-4	8-18		6.3-13	7.4-9.0	0-2	0	0.5-2.0	2-10
	4-9	8-18		6.2-13	7.4-9.0	0-2	0	0.5-2.0	2-10
	9-18	8-18		6.1-13	7.4-9.0	0-2	0	0.5-2.0	2-10
	18-24	8-18		5.6-12	7.4-9.0	0-5	0	0.5-2.0	2-10
	24-34	8-18		5.1-12	7.4-9.0	0-5	0	0.5-2.0	2-10
	34-44	---		---	---	---	---	---	---
Xerorthents, shallow-----	0-8	20-34		14-22	7.4-9.0	0-2	0-1	1.0-5.0	4-15
	8-13	5-19		3.4-12	7.4-9.0	0-4	0-1	1.0-5.0	4-15
	13-23	---		---	---	---	---	---	---
591:									
Geghus-----	0-2	12-25		11-21	7.4-8.4	0-1	0	0.2-1.0	1-5
	2-6	12-25		11-21	7.4-8.4	0-1	0	0.2-1.0	1-5
	6-15	12-40		10-31	7.4-8.4	0-1	0	0.2-1.0	1-5
	15-29	20-40		16-31	7.4-8.4	1-2	0	0.2-1.0	1-5
	29-44	20-40		16-31	7.4-8.4	1-2	0	0.2-1.0	1-5
	44-54	20-40		16-30	7.4-8.4	1-2	0	0.2-1.0	1-5
	54-62	20-40		15-30	7.4-8.4	1-2	0	0.2-1.0	1-5
Selby-----	0-3	10-25		8.9-21	6.6-7.8	0-1	0	0.2-1.0	1-3
	3-8	10-30		8.6-24	7.4-8.4	0-1	0	0.2-1.0	1-3
	8-16	22-35		17-27	7.4-8.4	0-1	0	0.2-1.0	1-3
	16-25	8-18		6.6-15	7.4-8.4	0-1	0	0.2-1.0	1-3
	25-35	---		---	---	---	---	---	---
600:									
Positas-----	0-2	10-26		9.1-22	6.1-7.3	0-1	0	0.2-1.0	1-4
	2-10	10-26		9.0-21	6.1-7.3	0-1	0	0.2-1.0	1-4
	10-15	10-26		8.9-21	6.1-7.3	0-1	0	0.2-1.0	1-4
	15-19	35-45		23-33	6.1-7.3	0-1	0	0.2-1.0	1-4
	19-32	35-45		23-33	6.6-8.4	0-1	0	0.2-1.0	1-4
	32-37	35-45		22-33	6.6-8.4	0-1	0	0.2-1.0	1-4
	37-44	30-45		22-32	6.6-8.4	0-1	0	0.2-1.0	1-4
	44-55	20-30		15-24	6.6-8.4	0-1	0	0.2-1.0	1-4
	55-67	8-18		7.0-15	6.6-8.4	0-1	0	0.2-1.0	1-4
Bitcreek-----	0-3	19-35		16-29	6.1-7.3	0	0	0.2-2.0	2-6
	3-8	19-35		16-28	6.1-7.3	0	0	0.2-2.0	2-6
	8-19	19-35		15-28	6.1-7.3	0	0	0.2-2.0	2-6
	19-31	19-35		15-27	6.1-7.3	0	0	0.2-2.0	2-6
	31-38	19-35		14-27	6.1-7.3	0	0	0.2-2.0	2-6
	38-60	19-55		14-39	6.1-7.3	0	0	0.2-2.0	2-6

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	dS/m	
610:								
Balcom-----	0-2	15-25	13-21	7.9-8.4	10-15	0	0.1-2.0	1-4
	2-10	15-25	13-20	7.9-8.4	15-25	0	0.1-2.0	1-4
	10-20	15-25	12-20	7.9-8.4	15-25	0	0.1-2.0	1-4
	20-33	15-25	12-20	7.9-8.4	10-15	0	0.1-2.0	1-4
	33-43	---	---	---	---	---	---	---
Rock outcrop.								
620:								
Typic Xerorthents, mesic-----	0-4	8-18	6.3-13	7.4-9.0	0-2	0	0.5-2.0	2-10
	4-9	8-18	6.2-13	7.4-9.0	0-2	0	0.5-2.0	2-10
	9-18	8-18	6.1-13	7.4-9.0	0-2	0	0.5-2.0	2-10
	18-24	8-18	5.6-12	7.4-9.0	0-5	0	0.5-2.0	2-10
	24-34	8-18	5.1-11	7.4-9.0	0-5	0	0.5-2.0	2-10
	34-44	---	---	---	---	---	---	---
Haploxerepts-----	0-7	8-34	5.9-20	7.5-8.4	0-3	0-1	0.3-5.0	1-5
	7-20	8-34	5.6-19	7.5-8.4	2-4	0-1	0.3-5.0	1-5
	20-41	8-34	4.5-17	7.5-8.4	2-4	0-1	0.3-5.0	1-5
	41-60	8-34	4.1-16	7.5-8.4	2-4	0-1	0.3-5.0	1-5
Xerorthents, sandy-----	0-11	3-12	2.6-9.3	7.4-8.4	0-1	0	0.3-2.0	2-4
	11-22	3-12	2.5-9.1	7.4-8.4	0-1	0	0.3-2.0	2-4
	22-33	3-12	2.4-8.5	7.4-8.4	0-1	0	0.3-2.0	2-4
	33-41	3-12	2.2-8.0	7.4-8.4	0-1	0	0.3-2.0	2-4
	41-51	---	---	---	---	---	---	---
640:								
Bitcreek-----	0-3	19-35	16-29	6.1-7.3	0	0	0.2-2.0	2-6
	3-8	19-35	16-28	6.1-7.3	0	0	0.2-2.0	2-6
	8-19	19-35	15-28	6.1-7.3	0	0	0.2-2.0	2-6
	19-31	19-35	15-27	6.1-7.3	0	0	0.2-2.0	2-6
	31-38	19-35	14-27	6.1-7.3	0	0	0.2-2.0	2-6
	38-60	19-55	14-39	6.1-7.3	0	0	0.2-2.0	2-6
Dibble-----	0-3	20-35	16-27	6.6-7.3	0	0	0.2-1.0	1-3
	3-12	28-45	22-33	6.6-7.3	0	0	0.2-1.0	1-3
	12-22	28-45	21-33	6.6-7.3	0	0	0.2-1.0	1-3
	22-31	28-45	21-32	6.6-7.3	0	0	0.2-1.0	1-3
	31-38	28-45	20-32	6.6-7.3	0	0	0.2-1.0	1-3
	38-48	---	---	---	---	---	---	---
Eaglerest-----	0-2	15-20	13-17	6.6-7.3	0-1	0	0.2-1.0	2-6
	2-6	20-30	16-24	7.4-8.4	0-1	0	0.2-1.0	2-6
	6-13	20-30	15-23	7.4-8.4	0-1	0	0.2-1.0	2-6
	13-23	---	---	---	---	---	---	---
650:								
Lithic Argixerolls-----	0-2	5-18	4.6-15	6.1-7.8	0-5	0-2	0.3-4.0	1-5
	2-7	5-18	4.5-15	6.1-7.8	0-5	0-2	0.3-4.0	1-5
	7-11	10-18	8.1-14	6.1-7.8	0-5	0-2	0.3-4.0	1-5
	11-21	---	---	---	---	---	---	---
Lithic Xerorthents, mesic-----	0-7	5-10	4.0-7.8	6.6-7.8	0-5	0-2	0.4-4.0	1-5
	7-9	5-10	3.6-7.1	6.6-7.8	0-5	0-2	0.4-4.0	1-5
	9-19	---	---	---	---	---	---	---
Rock outcrop.								

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	dS/m	
660:								
Elkhills-----	0-4	7-18	6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18	6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18	5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10	2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
Legray-----	0-4	8-18	6.7-14	7.9-8.4	2-4	0-2	1.0-4.0	1-10
	4-13	8-18	6.7-13	7.9-8.4	2-4	0-2	1.0-4.0	1-10
	13-26	8-18	6.6-13	7.9-8.4	3-4	0-2	1.0-4.0	1-10
	26-32	3-10	2.9-8.0	7.9-8.4	1-3	0-2	1.0-8.0	1-10
	32-39	3-10	2.8-7.9	7.4-7.8	0-1	0-2	1.0-8.0	1-6
	39-48	3-10	2.7-7.8	7.4-7.8	0-1	0-2	1.0-8.0	1-6
	48-61	3-10	2.7-7.6	7.4-7.8	0-1	0-2	1.0-8.0	1-6
	61-65	3-10	2.5-7.3	7.4-7.8	0-1	0-2	1.0-8.0	1-6
661:								
Elkhills-----	0-4	7-18	6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18	6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18	5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10	2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
Legray-----	0-4	8-18	6.7-14	7.9-8.4	2-4	0-2	1.0-4.0	1-10
	4-13	8-18	6.7-13	7.9-8.4	2-4	0-2	1.0-4.0	1-10
	13-26	8-18	6.6-13	7.9-8.4	3-4	0-2	1.0-4.0	1-10
	26-32	3-10	2.9-8.0	7.9-8.4	1-3	0-2	1.0-8.0	1-10
	32-39	3-10	2.8-7.9	7.4-7.8	0-1	0-2	1.0-8.0	1-6
	39-48	3-10	2.7-7.8	7.4-7.8	0-1	0-2	1.0-8.0	1-6
	48-61	3-10	2.7-7.6	7.4-7.8	0-1	0-2	1.0-8.0	1-6
	61-65	3-10	2.5-7.3	7.4-7.8	0-1	0-2	1.0-8.0	1-6
670:								
Harrisranch-----	0-3	10-18	8.9-16	6.1-7.8	0	0	0.2-1.0	1-4
	3-23	10-18	8.8-15	6.1-7.8	0	0	0.2-1.0	1-4
	23-43	10-18	8.6-15	6.1-7.8	0	0	0.2-1.0	1-4
	43-65	10-18	8.3-15	6.1-7.8	0	0	0.2-1.0	1-4
Rock outcrop.								
680:								
Milham-----	0-5	8-20	6.9-16	7.9-9.0	0-1	0	0.5-2.0	1-4
	5-12	8-20	6.6-16	7.9-9.0	0-1	0	0.5-2.0	1-4
	12-18	8-20	6.6-16	7.9-9.0	0-1	0	0.5-2.0	1-4
	18-24	23-30	17-23	7.9-9.0	0-1	0	0.5-2.0	1-4
	24-33	23-30	17-23	7.9-9.0	1-4	0	0.5-2.0	1-4
	33-43	10-30	8.1-23	7.9-9.0	1-4	0	0.5-2.0	1-4
	43-55	10-30	8.1-23	7.9-9.0	1-4	0	2.0-8.0	5-14
	55-60	5-10	4.2-8.3	7.9-9.0	1-4	0	2.0-8.0	5-14
690:								
Dibble-----	0-3	20-35	16-27	6.6-7.3	0	0	0.2-1.0	1-3
	3-12	28-45	22-33	6.6-7.3	0	0	0.2-1.0	1-3
	12-22	28-45	21-33	6.6-7.3	0	0	0.2-1.0	1-3
	22-31	28-45	21-32	6.6-7.3	0	0	0.2-1.0	1-3
	31-38	28-45	20-32	6.6-7.3	0	0	0.2-1.0	1-3
	38-48	---	---	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Cation-	Soil	Calcium	Gypsum	Salinity	Sodium
	In	Pct	exchange capacity	reaction	carbonate			adsorption ratio
			meq/100g	pH	Pct	Pct	dS/m	
690:								
Geghus-----	0-2	12-25	11-21	7.4-8.4	0-1	0	0.2-1.0	1-5
	2-6	12-25	11-21	7.4-8.4	0-1	0	0.2-1.0	1-5
	6-15	12-40	10-31	7.4-8.4	0-1	0	0.2-1.0	1-5
	15-29	20-40	16-31	7.4-8.4	1-2	0	0.2-1.0	1-5
	29-44	20-40	16-31	7.4-8.4	1-2	0	0.2-1.0	1-5
	44-54	20-40	16-30	7.4-8.4	1-2	0	0.2-1.0	1-5
	54-62	20-40	15-30	7.4-8.4	1-2	0	0.2-1.0	1-5
700:								
Xerolls, loamy-skeletal-----	0-8	18-27	15-22	6.1-7.3	0	0	0.3-1.0	1-3
	8-18	18-27	14-21	6.1-7.3	0	0	0.3-1.0	1-3
	18-38	18-27	12-18	6.1-7.3	0	0	0.3-1.0	1-3
	38-60	18-27	12-18	6.1-7.3	0	0	0.3-1.0	1-3
Los Gatos-----	0-1	---	73-88	5.0-6.0	0	0	0	0
	1-6	5-15	2.7-8.2	5.6-6.5	0	0	0.2-2.0	2-8
	6-10	5-15	2.7-8.1	5.6-6.5	0	0	0.2-2.0	2-8
	10-16	15-35	8.0-19	5.6-6.5	0	0	0.2-2.0	2-8
	16-24	15-35	7.9-18	5.6-6.5	0	0	0.2-2.0	2-8
	24-29	15-35	7.7-18	5.6-6.5	0	0	0.2-2.0	2-8
	29-39	---	---	---	---	---	---	---
720:								
Friant-----	0-1	10-18	8.9-16	6.6-7.3	0	0	0.1-1.0	1-4
	1-8	15-25	12-21	6.6-7.3	0	0	0.1-1.0	1-4
	8-18	---	---	---	---	---	---	---
Geghus-----	0-2	12-25	11-21	7.4-8.4	0-1	0	0.2-1.0	1-5
	2-6	12-25	11-21	7.4-8.4	0-1	0	0.2-1.0	1-5
	6-15	12-40	10-31	7.4-8.4	0-1	0	0.2-1.0	1-5
	15-29	20-40	16-31	7.4-8.4	1-2	0	0.2-1.0	1-5
	29-44	20-40	16-31	7.4-8.4	1-2	0	0.2-1.0	1-5
	44-54	20-40	16-30	7.4-8.4	1-2	0	0.2-1.0	1-5
	54-62	20-40	15-30	7.4-8.4	1-2	0	0.2-1.0	1-5
Lithic Xerorthents, thermic-----	0-6	8-18	6.1-13	6.6-7.3	0	0	0.3-1.0	1-5
	6-12	---	---	---	---	---	---	---
724:								
Elkhills-----	0-4	7-18	6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18	6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18	5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10	2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
725:								
Sodic Haplocambids thick-----	0-3	7-18	6.9-17	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	3-12	7-18	5.8-15	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	12-18	7-18	5.1-15	7.9-9.0	1-3	0-2	4.0-16.0	13-26
	18-24	7-50	4.9-33	7.9-9.0	1-3	0-2	4.0-16.0	13-40
	24-27	8-50	5.0-32	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	27-42	10-50	5.7-30	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	42-54	15-50	7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	54-61	15-50	7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Cation-	Soil	Calcium	Gypsum	Salinity	Sodium
	In	Pct	exchange capacity	reaction	carbonate			adsorption ratio
			meq/100g	pH	Pct	Pct	dS/m	
726:								
Sodic Haplocambids, thick-----	0-3	7-18	6.4-15	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	3-12	7-18	6.3-15	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	12-18	7-18	6.1-15	7.9-9.0	1-3	0-2	4.0-16.0	13-26
	18-24	7-50	6.1-15	7.9-9.0	1-3	0-2	4.0-16.0	13-40
	24-27	8-50	6.6-10	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	27-42	40-50	28-36	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	42-54	25-50	17-25	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	54-61	28-50	19-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
727:								
Sodic Haplocambids, thick-----	0-3	7-18	6.9-17	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	3-12	7-18	5.8-15	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	12-18	7-18	5.1-15	7.9-9.0	1-3	0-2	4.0-16.0	13-26
	18-24	7-50	4.9-33	7.9-9.0	1-3	0-2	4.0-16.0	13-40
	24-27	8-50	5.0-32	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	27-42	10-50	5.7-30	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	42-54	15-50	7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	54-61	15-50	7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
728:								
Torriorthents, very thin-----	0-7	10-35	7.2-23	7.9-9.0	2-4	0-2	10.0-29.0	20-50
	7-16	28-45	17-29	7.9-9.0	2-4	2-4	15.0-29.0	20-80
	16-23	28-45	17-29	7.9-9.0	2-4	2-4	20.0-29.0	40-100
	23-33	28-45	17-29	7.9-9.0	2-4	2-4	20.0-29.0	60-150
	33-60	---	---	---	---	---	---	---
729:								
Sodic Haplocambids, thick-----	0-3	7-18	6.9-17	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	3-12	7-18	5.8-15	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	12-18	7-18	5.1-15	7.9-9.0	1-3	0-2	4.0-16.0	13-26
	18-24	7-50	4.9-33	7.9-9.0	1-3	0-2	4.0-16.0	13-40
	24-27	8-50	5.0-32	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	27-42	10-50	5.7-30	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	42-54	15-50	7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	54-61	15-50	7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
Torriorthents, thin-----	0-2	15-27	11-19	7.9-9.0	0-2	0-1	2.0-10.0	1-100
	2-9	15-27	11-19	7.9-9.0	0-2	0-1	2.0-10.0	1-100
	9-17	6-50	4.5-30	7.9-9.0	0-2	1-3	20.0-29.0	100-300
	17-28	6-50	4.4-30	7.9-9.0	0-2	0-1	20.0-29.0	100-300
	28-38	6-50	4.2-30	7.9-9.0	1-3	0-1	20.0-29.0	100-200
	38-41	6-50	4.2-29	7.9-9.0	1-3	0-1	20.0-29.0	100-200
	41-60	6-50	3.9-28	7.9-9.0	1-3	0-1	20.0-29.0	100-200
Torriorthents, very thin, eroded--	0-7	10-35	7.2-23	7.9-9.0	2-4	0-2	10.0-29.0	20-60
	7-16	28-45	17-29	7.9-9.0	2-4	3-9	15.0-29.0	20-80
	16-23	28-45	17-29	7.9-9.0	2-4	3-9	20.0-29.0	40-100
	23-33	28-45	17-29	7.9-9.0	2-4	3-9	20.0-29.0	60-150
	33-60	---	---	---	---	---	---	---
730:								
Haplocambids, thick-----	0-1	15-27	11-19	7.9-9.0	0-2	0-1	0.3-3.0	1-12
	1-5	15-27	11-19	7.9-9.0	0-2	0-1	0.3-3.0	1-12
	5-16	15-30	11-20	7.9-9.0	0-2	0-1	0.3-3.0	1-12
	16-20	15-30	11-20	7.9-9.0	0-2	0-1	2.0-3.0	2-12
	20-26	15-30	11-20	7.9-9.0	1-3	0-1	2.0-3.0	3-12
	26-33	15-30	11-20	7.9-9.0	1-3	0-1	2.0-3.0	3-12
	33-54	15-30	10-19	7.9-9.0	1-3	0-1	2.0-3.0	3-12
	54-60	15-30	9.6-19	7.9-9.0	1-3	0-1	3.0-20.0	13-40

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	dS/m	
730:								
Elkhills-----	0-4	7-18	6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18	6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18	5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10	2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
731:								
Haplocambids, thick-----	0-1	15-27	11-19	7.9-9.0	0-2	0-1	0.3-3.0	1-5
	1-5	15-27	11-19	7.9-9.0	0-2	0-1	0.3-3.0	1-5
	5-16	15-30	11-20	7.9-9.0	0-2	0-1	0.3-3.0	1-5
	16-20	15-30	11-20	7.9-9.0	0-2	0-1	1.0-3.0	5-12
	20-26	15-30	11-20	7.9-9.0	1-3	0-1	1.0-3.0	5-12
	26-33	15-30	11-20	7.9-9.0	1-3	0-1	1.0-3.0	5-12
	33-54	15-30	10-19	7.9-9.0	1-3	0-1	1.0-3.0	5-12
	54-60	15-30	9.6-19	7.9-9.0	1-3	0-1	3.0-20.0	13-40
Elkhills-----	0-4	7-18	6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18	6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18	5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10	2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
732:								
Elkhills-----	0-4	7-18	6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18	6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18	6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18	5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10	2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
Haplocambids, thick-----	0-1	15-27	11-19	7.9-9.0	0-2	0-1	0.3-3.0	1-10
	1-5	15-27	11-19	7.9-9.0	0-2	0-1	0.3-3.0	1-10
	5-16	15-30	11-20	7.9-9.0	0-2	0-1	0.3-3.0	1-10
	16-20	15-30	11-20	7.9-9.0	0-2	0-1	1.0-3.0	5-12
	20-26	15-30	11-20	7.9-9.0	1-3	0-1	1.0-3.0	5-12
	26-33	15-30	11-20	7.9-9.0	1-3	0-1	1.0-3.0	5-12
	33-54	15-30	10-19	7.9-9.0	1-3	0-1	1.0-3.0	5-12
	54-60	15-30	9.6-19	7.9-9.0	1-3	0-1	3.0-20.0	13-40
733:								
Sodic Haplocambids, thick-----	0-3	7-18	6.9-17	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	3-12	7-18	5.8-15	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	12-18	7-18	5.1-15	7.9-9.0	1-3	0-2	4.0-16.0	13-26
	18-24	7-50	4.9-33	7.9-9.0	1-3	0-2	4.0-16.0	13-40
	24-27	8-50	5.0-32	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	27-42	10-50	5.7-30	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	42-54	15-50	7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	54-61	15-50	7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
Torriorthents, thin-----	0-2	15-27	11-19	7.9-9.0	0-2	0-1	2.0-10.0	1-100
	2-9	15-27	11-19	7.9-9.0	0-2	0-1	2.0-10.0	1-100
	9-17	6-50	4.5-30	7.9-9.0	0-2	1-3	20.0-29.0	100-300
	17-28	6-50	4.4-30	7.9-9.0	0-2	0-1	20.0-29.0	100-300
	28-38	6-50	4.2-30	7.9-9.0	1-3	0-1	20.0-29.0	100-200
	38-41	6-50	4.2-29	7.9-9.0	1-3	0-1	20.0-29.0	100-200
	41-60	6-50	3.9-28	7.9-9.0	1-3	0-1	20.0-29.0	100-200

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
734:									
Sodic Haplocambids, thick-----	0-3	7-18		6.9-17	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	3-12	7-18		5.8-15	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	12-18	7-18		5.1-15	7.9-9.0	1-3	0-2	4.0-16.0	13-26
	18-24	7-50		4.9-33	7.9-9.0	1-3	0-2	4.0-16.0	13-40
	24-27	8-50		5.0-32	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	27-42	10-50		5.7-30	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	42-54	15-50		7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	54-61	15-50		7.3-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
Torriorthents, very thin, eroded--	0-1	10-35		7.2-23	7.9-9.0	2-4	0-2	10.0-29.0	20-60
	1-16	28-45		17-29	7.9-9.0	2-4	2-4	15.0-29.0	20-80
	16-23	28-45		17-29	7.9-9.0	2-4	2-4	20.0-29.0	40-100
	23-33	28-45		17-29	7.9-9.0	2-4	2-4	20.0-29.0	60-150
	33-60	---		---	---	---	---	---	---
Elkhills-----	0-4	7-18		6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18		6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18		6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18		6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18		5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10		2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
735:									
Sodic Haplocambids, thick-----	0-3	7-18		6.9-17	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	3-12	7-18		5.8-15	7.9-9.0	1-3	0-2	1.0-4.0	4-12
	12-18	7-18		5.1-15	7.9-9.0	1-3	0-2	4.0-16.0	13-26
	18-24	7-50		4.9-33	7.9-9.0	1-3	0-2	4.0-16.0	13-40
	24-27	8-50		5.0-32	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	27-42	40-50		19-30	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	42-54	25-50		11-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
	54-61	28-50		13-28	7.9-9.0	2-4	0-2	4.0-16.0	13-40
Elkhills-----	0-4	7-18		6.4-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	4-10	7-18		6.3-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	10-27	7-18		6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	27-34	7-18		6.1-15	7.9-8.4	1-3	0	0.5-4.0	2-6
	34-52	7-18		5.9-15	7.9-8.4	2-4	0	0.5-4.0	2-6
	52-65	3-10		2.7-8.3	7.9-8.4	2-4	0	0.5-4.0	2-6
Torriorthents, thin-----	0-2	15-27		11-19	7.9-9.0	0-2	0-1	2.0-10.0	1-100
	2-9	15-27		11-19	7.9-9.0	0-2	0-1	2.0-10.0	1-100
	9-17	6-50		4.5-30	7.9-9.0	0-2	1-3	20.0-29.0	100-300
	17-28	6-50		4.4-30	7.9-9.0	0-2	0-1	20.0-29.0	100-300
	28-38	6-50		4.2-30	7.9-9.0	1-3	0-1	20.0-29.0	100-200
	38-41	6-50		4.2-29	7.9-9.0	1-3	0-1	20.0-29.0	100-200
	41-60	6-50		3.9-28	7.9-9.0	1-3	0-1	20.0-29.0	100-200
750:									
Ballinger-----	0-3	40-60		29-43	7.9-8.4	1-3	0-6	4.0-16.0	2-10
	3-15	40-60		25-38	7.9-8.4	1-5	10-15	4.0-25.0	2-10
	15-23	40-60		18-38	7.9-8.4	1-10	20-25	4.0-25.0	2-10
	23-36	40-60		18-38	7.9-8.4	1-10	20-25	4.0-25.0	2-10
	36-46	---		---	---	---	---	---	---
760:									
Ballinger-----	0-3	40-60		29-43	7.9-8.4	1-3	0-6	4.0-16.0	2-10
	3-15	40-60		24-38	7.9-8.4	1-5	10-15	4.0-25.0	2-10
	15-23	40-60		19-38	7.9-8.4	1-10	20-25	4.0-25.0	2-10
	23-36	40-60		19-38	7.9-8.4	1-10	20-25	4.0-25.0	2-10
	36-46	---		---	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
780: Stutzville-----	0-1	15-35		12-28	7.9-9.5	0-5	0-2	8.0-30.0	2-20
	1-7	15-35		12-27	7.9-9.5	5-10	0-5	16.0-50.0	2-40
	7-35	15-35		12-27	7.9-9.5	5-10	0-5	16.0-50.0	2-40
	35-48	15-50		12-37	7.9-9.5	5-10	0-5	16.0-50.0	2-40
	48-66	15-50		12-36	7.9-9.5	5-10	0-5	16.0-50.0	2-40
	66-72	5-18		4.2-14	7.9-9.5	0-3	0-5	16.0-50.0	2-40
850: Xerofluvents-----	0-4	8-18		6.2-13	6.6-7.8	0-2	0	0.3-3.0	2-5
	4-19	2-18		1.8-13	6.6-7.8	0-2	0	0.3-3.0	2-5
	19-31	2-18		1.6-13	6.6-7.8	0-2	0	0.3-3.0	2-5
	31-40	2-18		1.6-13	6.6-7.8	0-2	0	0.3-3.0	2-5
	40-53	2-18		1.6-12	6.6-7.8	0-2	0	0.3-3.0	2-5
	53-62	2-18		1.6-12	6.6-7.8	0-2	0	0.3-3.0	2-5
860: Hawk-----	0-2	---		65-96	5.1-6.0	0	0	0	0
	2-7	8-18		7.5-16	6.6-7.3	0	0	0.0-1.0	0-2
	7-17	8-18		7.4-16	6.6-7.3	0	0	0.0-1.0	0-2
	17-39	8-18		7.1-15	6.6-7.3	0	0	0.0-1.0	0-2
	39-60	8-18		6.6-15	6.6-7.3	0	0	0.0-1.0	0-2
870: Frazier-----	0-4	8-18		6.6-15	6.1-7.3	0-1	0	0.1-1.0	1-3
	4-12	8-18		6.8-15	6.1-7.3	0-1	0	0.1-1.0	1-3
	12-23	8-18		6.6-14	6.1-7.3	0-1	0	0.1-1.0	1-3
	23-33	---		---	---	---	---	---	---
880: Chuchupate-----	0-1	---		42-58	5.0-6.5	0	0	0	0
	1-10	5-20		5.0-18	6.6-7.8	0-1	0	0.2-2.0	0-3
	10-21	5-20		4.6-17	6.1-7.8	0-1	0	0.2-2.0	0-3
	21-36	5-20		4.2-16	6.1-7.8	0-1	0	0.2-2.0	0-3
	36-46	---		---	---	---	---	---	---
890: Gorman-----	0-7	10-20		9.1-18	6.1-7.8	0	0	0.1-0.3	0-3
	7-15	10-20		8.9-17	6.1-7.8	0	0	0.1-0.3	0-3
	15-23	10-27		8.8-22	6.1-7.8	0	0	0.1-0.3	0-3
	23-37	20-35		16-27	6.1-7.8	0	0	0.1-0.3	0-3
	37-48	20-35		16-27	6.1-7.8	0	0	0.1-0.3	0-3
	48-61	20-35		15-26	6.1-7.8	0	0	0.1-0.3	0-3
919: Zonap-----	0-3	10-18		8.8-15	6.6-8.4	0-3	0	0.5-4.0	1-5
	3-10	10-18		8.5-15	7.9-8.4	1-3	0	1.0-4.0	1-5
	10-26	10-18		7.9-14	7.9-8.4	1-3	0	1.0-4.0	1-7
	26-36	---		---	---	---	---	---	---
Harrisranch-----	0-3	10-18		8.9-16	6.1-7.8	0	0	0.2-1.0	1-4
	3-23	10-18		8.8-15	6.1-7.8	0	0	0.2-1.0	1-4
	23-43	10-18		8.6-15	6.1-7.8	0	0	0.2-1.0	1-4
	43-65	10-18		8.3-15	6.1-7.8	0	0	0.2-1.0	1-4
Beam-----	0-3	8-18		7.1-15	7.9-8.4	1-4	0	0.5-4.0	0
	3-15	8-18		6.8-15	7.9-8.4	1-4	0	0.5-4.0	0
	15-25	---		---	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
930: Bitcreek-----	0-3	19-35		16-29	6.1-7.3	0	0	0.2-2.0	2-6
	3-8	19-35		16-28	6.1-7.3	0	0	0.2-2.0	2-6
	8-19	19-35		15-28	6.1-7.3	0	0	0.2-2.0	2-6
	19-31	19-35		15-27	6.1-7.3	0	0	0.2-2.0	2-6
	31-38	19-35		14-27	6.1-7.3	0	0	0.2-2.0	2-6
	38-60	19-55		14-39	6.1-7.3	0	0	0.2-2.0	2-6
Shimmon-----	0-1	20-30		17-25	6.6-7.8	0	0	0.3-2.0	2-5
	1-5	20-30		17-25	6.6-7.8	0	0	0.3-2.0	2-5
	5-11	20-35		16-28	6.6-7.8	0	0	0.3-2.0	2-5
	11-15	20-35		16-27	6.6-7.8	0	0	0.3-2.0	2-5
	15-21	20-35		15-26	6.6-7.8	0	0	0.3-2.0	2-5
	21-31	---		---	---	---	---	---	---
Balhud-----	0-3	18-27		15-22	6.6-7.8	0-3	0	0.1-3.0	1-4
	3-10	28-40		21-30	6.6-7.8	0-3	0	0.1-3.0	1-4
	10-18	---		---	---	---	---	---	---
	18-28	---		---	---	---	---	---	---
932: Bitcreek-----	0-3	19-35		16-29	6.1-7.3	0	0	0.2-2.0	2-6
	3-8	19-35		16-28	6.1-7.3	0	0	0.2-2.0	2-6
	8-19	19-35		15-28	6.1-7.3	0	0	0.2-2.0	2-6
	19-31	19-35		15-27	6.1-7.3	0	0	0.2-2.0	2-6
	31-38	19-35		14-27	6.1-7.3	0	0	0.2-2.0	2-6
	38-60	19-55		14-39	6.1-7.3	0	0	0.2-2.0	2-6
Shimmon-----	0-1	20-30		17-25	6.6-7.8	0	0	0.3-2.0	2-5
	1-5	20-30		17-25	6.6-7.8	0	0	0.3-2.0	2-5
	5-11	20-35		16-28	6.6-7.8	0	0	0.3-2.0	2-5
	11-15	20-35		16-27	6.6-7.8	0	0	0.3-2.0	2-5
	15-21	20-35		15-26	6.6-7.8	0	0	0.3-2.0	2-5
	21-31	---		---	---	---	---	---	---
Balhud-----	0-3	18-27		15-22	6.6-7.8	0-3	0	0.1-3.0	1-4
	3-10	28-40		21-30	6.6-7.8	0-3	0	0.1-3.0	1-4
	10-18	---		---	---	---	---	---	---
	18-28	---		---	---	---	---	---	---
940: Bitcreek-----	0-3	19-35		16-29	6.1-7.3	0	0	0.2-2.0	2-6
	3-8	19-35		16-28	6.1-7.3	0	0	0.2-2.0	2-6
	8-19	19-35		15-28	6.1-7.3	0	0	0.2-2.0	2-6
	19-31	19-35		15-27	6.1-7.3	0	0	0.2-2.0	2-6
	31-38	19-35		14-27	6.1-7.3	0	0	0.2-2.0	2-6
	38-60	19-55		14-39	6.1-7.3	0	0	0.2-2.0	2-6
950: Pleito-----	0-4	10-25		9.1-21	6.6-7.8	0-1	0	0.4-2.0	1-6
	4-8	10-25		8.9-21	7.4-7.8	0-1	0	0.4-2.0	1-6
	8-18	10-25		8.9-21	7.4-8.4	0-1	0	0.4-2.0	1-6
	18-25	10-25		8.6-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	25-32	10-25		8.5-20	7.9-8.4	2-7	0	0.4-2.0	1-6
	32-46	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	46-56	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	56-64	10-25		8.1-19	7.9-8.4	2-7	0	0.4-2.0	1-6
	64-80	10-25		7.9-19	7.9-8.4	2-7	0	0.4-2.0	1-6

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth		Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct		meq/100g	pH	Pct	Pct	dS/m	
950: Ballinger-----	0-3	40-60	29-43	7.9-8.4	1-3	0-6	4.0-16.0	2-10	
	3-15	40-60	24-38	7.9-8.4	1-5	10-15	4.0-25.0	2-10	
	15-23	40-60	19-38	7.9-8.4	1-10	20-25	4.0-25.0	2-10	
	23-36	40-60	19-38	7.9-8.4	1-10	20-25	4.0-25.0	2-10	
	36-46	---	---	---	---	---	---	---	
Balhud-----	0-3	18-27	15-22	6.6-7.8	0-3	0	0.1-3.0	1-4	
	3-10	28-40	21-30	6.6-7.8	0-3	0	0.1-3.0	1-4	
	10-18	---	---	---	---	---	---	---	
	18-28	---	---	---	---	---	---	---	
951: Bitcreek-----	0-3	19-35	16-29	6.1-7.3	0	0	0.2-2.0	2-6	
	3-8	19-35	16-28	6.1-7.3	0	0	0.2-2.0	2-6	
	8-19	19-35	15-28	6.1-7.3	0	0	0.2-2.0	2-6	
	19-31	19-35	15-27	6.1-7.3	0	0	0.2-2.0	2-6	
	31-38	19-35	14-27	6.1-7.3	0	0	0.2-2.0	2-6	
	38-60	19-55	14-39	6.1-7.3	0	0	0.2-2.0	2-6	
Balhud-----	0-3	18-27	15-22	6.6-7.8	0-3	0	0.1-3.0	1-4	
	3-10	28-40	21-30	6.6-7.8	0-3	0	0.1-3.0	1-4	
	10-18	---	---	---	---	---	---	---	
	18-28	---	---	---	---	---	---	---	
Ballinger-----	0-3	40-60	29-43	7.9-8.4	1-3	0-6	4.0-16.0	2-10	
	3-15	40-60	24-38	7.9-8.4	1-5	10-15	4.0-25.0	2-10	
	15-23	40-60	19-38	7.9-8.4	1-10	20-25	4.0-25.0	2-10	
	23-36	40-60	19-38	7.9-8.4	1-10	20-25	4.0-25.0	2-10	
	36-46	---	---	---	---	---	---	---	
954: Typic Haploxeralfs, fine-----	0-1	27-55	16-32	6.6-9.0	0-5	0-2	0.5-4.0	1-5	
	1-12	27-55	14-29	6.6-9.0	0-5	0-2	0.5-4.0	1-5	
	12-19	27-55	15-28	6.6-9.0	0-5	0-2	0.5-4.0	1-5	
	19-24	27-55	15-28	6.6-9.0	0-5	0-2	0.5-4.0	1-5	
	24-34	---	---	---	---	---	---	---	
Haploxerolls, coarse-loamy-----	0-4	10-17	10.0-16	6.6-7.8	0-2	0	0.2-3.0	1-3	
	4-17	10-17	8.9-14	6.6-7.8	0-2	0	0.2-3.0	1-3	
	17-34	10-17	7.2-12	6.6-7.8	0-3	0	0.2-3.0	1-3	
	34-44	---	---	---	---	---	---	---	
955: Calcic Haploxerepts-----	0-4	20-35	17-29	6.1-8.4	1-2	0-5	0.2-5.0	2-10	
	4-9	20-35	11-24	6.1-8.4	1-8	0-8	0.2-5.0	2-10	
	9-18	20-35	11-24	6.1-8.4	1-8	0-8	0.2-5.0	2-10	
	18-25	20-35	11-24	6.1-8.4	1-8	0-8	0.2-5.0	2-10	
	25-37	20-35	13-24	6.1-8.4	1-8	0-10	0.2-5.0	2-10	
	37-60	20-35	15-26	6.1-8.4	1-8	0-5	0.2-5.0	2-10	
Xerorthents, shallow-----	0-8	20-34	14-22	7.4-9.0	0-2	0-1	1.0-5.0	2-15	
	8-13	5-19	3.4-12	7.4-9.0	0-4	0-1	1.0-5.0	2-15	
	13-23	---	---	---	---	---	---	---	
Badlands.									

Soil Survey of Kern County, California, Southwest Part

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>Pct</i>	<i>meq/100g</i>	<i>pH</i>	<i>Pct</i>	<i>Pct</i>	<i>dS/m</i>	
970:								
Harrisranch-----	0-3	10-18	8.9-16	6.1-7.8	0	0	0.2-1.0	1-4
	3-23	10-18	8.8-15	6.1-7.8	0	0	0.2-1.0	1-4
	23-43	10-18	8.6-15	6.1-7.8	0	0	0.2-1.0	1-4
	43-65	10-18	8.3-15	6.1-7.8	0	0	0.2-1.0	1-4
Bitcreek-----	0-3	19-35	16-29	6.1-7.3	0	0	0.2-2.0	2-6
	3-8	19-35	16-28	6.1-7.3	0	0	0.2-2.0	2-6
	8-19	19-35	15-28	6.1-7.3	0	0	0.2-2.0	2-6
	19-31	19-35	15-27	6.1-7.3	0	0	0.2-2.0	2-6
	31-38	19-35	14-27	6.1-7.3	0	0	0.2-2.0	2-6
	38-60	19-55	14-39	6.1-7.3	0	0	0.2-2.0	2-6
980:								
Area not surveyed, access denied.								
W:								
Water.								

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features

[Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern]

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
101: Bakersfield, drained-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
102: Bakersfield, partially drained-----	B	Jan-Feb	---	---	---	---	Rare
		Mar-May	4.0-6.0	> 5.0	---	---	Rare
		Jun-Aug	4.0-6.0	> 5.0	---	---	---
		Sep-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
110: Buttonwillow, partially drained-----	C	Jan-Feb	---	---	Rare	---	Rare
		Mar-Aug	4.0-6.0	> 5.0	Rare	---	Rare
		Sep-Oct	---	---	---	---	---
		Nov-Dec	---	---	Rare	---	Rare
120: Granoso-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
121: Granoso-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
122: Granoso, loamy substratum--	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
123: Granoso-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
124: Granoso-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
130: Cerini-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
131: Calflax-----	C	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
132: Cerini-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
133: Calflax-----	C	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
134: Cerini-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
140: Copus silty clay, partially drained-----	C	Jan-Feb	---	---	Rare	---	Rare
		Mar-Aug	4.0-6.0	> 5.0	Rare	---	Rare
		Sep-Oct	---	---	---	---	---
		Nov-Dec	---	---	Rare	---	Rare
141: Copus clay, partially drained-----	C	Jan-Feb	---	---	Rare	---	Rare
		Mar-Aug	4.0-6.0	> 5.0	Rare	---	Rare
		Sep-Oct	---	---	---	---	---
		Nov-Dec	---	---	Rare	---	Rare
150: Excelsior-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
151: Excelsior, saline-sodic----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
152: Excelsior-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
153: Tupman-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
154: Tupman-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
Urban land-----	---	Jan-Dec	---	---	---	---	---
160: Fages-----	D	Jan-Feb Mar-Aug Sep-Oct Nov-Dec	4.0-6.0	> 5.0	Rare Rare --- Rare	---	Rare Rare --- Rare
179: Padres-----	B	Jan-Dec	---	---	---	---	---
180: Garces-----	C	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
190: Guijarral-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
191: Guijarral-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
192: Guijarral-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
Klipstein-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
193: Guijarral-----	B	Jan-Dec	---	---	---	---	---
195: Guijarral, extremely gravelly substratum-----	B	Jan-Dec	---	---	---	---	---
Guijarral-----	B	Jan-Dec	---	---	---	---	---
197: Klipstein-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
Guijarral-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
200: Hesperia-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
201: Hesperia-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
210: Kimberlina-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
211: Kimberlina-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
212: Kimberlina, saline-sodic---	C	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
214: Kimberlina-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
215: Kimberlina-----	B	Jan-Dec	---	---	---	---	---
216: Kimberlina, occasionally flooded-----	B	Jan-May	---	---	---	Very brief	Occasional
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	Very brief	Occasional
Granoso, occasionally flooded-----	B	Jan-May	---	---	---	Very brief	Occasional
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	Very brief	Occasional
217: Kimberlina-----	B	Jan-May	---	---	---	---	Very rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Very rare
Urban land-----	---	Jan-Dec	---	---	---	---	---
219: Xerorthents-----	C	Jan-Dec	---	---	---	---	---
Badlands-----	---	Jan-Dec	---	---	---	---	---
220: Lokern, drained-----	C	Jan-Aug	---	---	Rare	---	Rare
		Sep-Oct	---	---	---	---	---
		Nov-Dec	---	---	Rare	---	Rare
221: Lokern, partially drained--	C	Jan-Feb	---	---	Rare	---	Rare
		Mar-Aug	3.0-6.0	> 5.0	Rare	---	Rare
		Sep-Oct	---	---	---	---	---
		Nov-Dec	---	---	Rare	---	Rare
230: Milagro-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
231: Milagro-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
240: Millox, partially drained--	C	Jan-Feb	---	---	Rare	---	Rare
Mar-May		5.0-6.0	> 5.0	Rare	---	Rare	
Jun-Aug		5.0-6.0	> 5.0	---	---	---	
Sep-Oct		---	---	---	---	---	
Nov-Dec		---	---	Rare	---	Rare	
241: Millox, partially drained, nonsaline-----	C	Jan-Feb	---	---	Rare	---	Rare
Mar-May		5.0-6.0	> 5.0	Rare	---	Rare	
Jun-Aug		5.0-6.0	> 5.0	---	---	---	
Sep-Oct		---	---	---	---	---	
Nov-Dec		---	---	Rare	---	Rare	
242: Millox, partially drained--	C	Jan-Feb	---	---	Rare	---	Rare
Mar-May		5.0-6.0	> 5.0	Rare	---	Rare	
Jun-Aug		5.0-6.0	> 5.0	---	---	---	
Sep-Oct		---	---	---	---	---	
Nov-Dec		---	---	Rare	---	Rare	
Tennco-----	B	Jan-May	---	---	---	---	Rare
Jun-Oct		---	---	---	---	---	
Nov-Dec		---	---	---	---	Rare	
243: Millox, partially drained--	C	Jan-Feb	---	---	Rare	---	Rare
Mar-May		5.0-6.0	> 5.0	Rare	---	Rare	
Jun-Aug		5.0-6.0	> 5.0	---	---	---	
Sep-Oct		---	---	---	---	---	
Nov-Dec		---	---	Rare	---	Rare	
Zalvidea, partially drained	B	Jan-Feb	---	---	Rare	---	Rare
Mar-Aug		4.0-6.0	> 5.0	Rare	---	Rare	
Sep-Oct		---	---	---	---	---	
Nov-Dec		---	---	Rare	---	Rare	
246: Whitewolf-----	B	Jan-May	---	---	---	---	Rare
Jun-Oct		---	---	---	---	---	
Nov-Dec		---	---	---	---	Rare	
250: Oldriver-----	B	Jan-May	---	---	---	---	Rare
Jun-Oct		---	---	---	---	---	
Nov-Dec		---	---	---	---	Rare	
251: Oldriver, partially drained, sodic-----	B	Jan-May	---	---	---	---	Rare
Jun-Oct		---	---	---	---	---	
Nov-Dec		---	---	---	---	Rare	

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
260: Panoche-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
270: Pits-----	---	Jan-Dec	---	---	---	---	---
Dumps-----	---	Jan-Dec	---	---	---	---	---
280: Premier-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
281: Premier-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Very rare --- Very rare
290: Riverwash-----	---	Jan-Dec	---	---	---	---	Rare
300: Tennco-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
310: Vineland, drained-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
312: Vineland, drained-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
Bakersfield, drained-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
320: Wasco-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
330: Cuyama-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
331: Cuyama-----	B	Jan-Dec	---	---	---	---	---
332: Cuyama-----	B	Jan-Dec	---	---	---	---	---
340: Weedpatch-----	C	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
350: Posochanet, saline-sodic---	C	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
351: Posochanet, saline-sodic---	C	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
352: Posochanet-----	C	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
Posochanet, partially reclaimed-----	C	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
360: Wheelridge-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
370: Whitewolf-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
371: Whitewolf-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
380: Zalvidea, partially drained	B	Jan-Feb	---	---	Rare	---	Rare
		Mar-Aug	4.0-6.0	> 5.0	Rare	---	Rare
		Sep-Oct	---	---	---	---	---
		Nov-Dec	---	---	Rare	---	Rare
381: Zalvidea, partially drained	B	Jan-Feb	---	---	Rare	---	Rare
		Mar-Aug	4.0-6.0	> 5.0	Rare	---	Rare
		Sep-Oct	---	---	---	---	---
		Nov-Dec	---	---	Rare	---	Rare
389: Xerofluvents-----	B	Jan-May	---	---	---	Brief	Occasional
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	Brief	Occasional
Haploxerepts-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
Riverwash-----	---	Jan-Jul	0.0-0.5	> 5.0	---	Long	Frequent
		Aug-Sep	---	---	---	---	---
		Oct-Dec	0.0-0.5	> 5.0	---	Long	Frequent
390: Pleito-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
391: Pleito-----	B	Jan-May	---	---	---	---	Rare
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	---	Rare
392: Pleito-----	B	Jan-Dec	---	---	---	---	---
393: Pleito-----	B	Jan-Dec	---	---	---	---	---
394: Pleito-----	B	Jan-Dec	---	---	---	---	---
Xeric Torriorthents, very gravelly-----	B	Jan-Dec	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
395: Pleito-----	B	Jan-Dec	---	---	---	---	---
Emidio-----	C	Jan-Dec	---	---	---	---	---
Loslobos-----	B	Jan-Dec	---	---	---	---	---
396: Pleito-----	B	Jan-Dec	---	---	---	---	---
Loslobos-----	B	Jan-Dec	---	---	---	---	---
398: Calcic Haploxerepts-----	C	Jan-Dec	---	---	---	---	---
Calcic Pachic Argixerolls, fine-----	C	Jan-Dec	---	---	---	---	---
Xerorthents, shallow-----	D	Jan-Dec	---	---	---	---	---
400: Loslobos-----	B	Jan-Dec	---	---	---	---	---
Xeric Torriorthents, very gravelly-----	B	Jan-Dec	---	---	---	---	---
Badlands-----	---	Jan-Dec	---	---	---	---	---
401: Loslobos-----	B	Jan-Dec	---	---	---	---	---
402: Loslobos-----	B	Jan-Dec	---	---	---	---	---
Walong-----	C	Jan-Dec	---	---	---	---	---
403: Loslobos-----	B	Jan-Dec	---	---	---	---	---
Calleguas-----	D	Jan-Dec	---	---	---	---	---
404: Loslobos, moist-----	B	Jan-Dec	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
430: Littlesignal-----	B	Jan-Dec	---	---	---	---	---
Cochora-----	D	Jan-Dec	---	---	---	---	---
431: Littlesignal-----	B	Jan-Dec	---	---	---	---	---
Cochora-----	D	Jan-Dec	---	---	---	---	---
432: Littlesignal-----	B	Jan-Dec	---	---	---	---	---
Badlands-----	---	Jan-Dec	---	---	---	---	---
Cochora-----	D	Jan-Dec	---	---	---	---	---
440: Elkhills-----	B	Jan-Dec	---	---	---	---	---
Pyxo-----	C	Jan-Dec	---	---	---	---	---
441: Sodic Haplocambids, thick--	C	Jan-Dec	---	---	---	---	---
442: Elkhills-----	B	Jan-Dec	---	---	---	---	---
443: Elkhills-----	B	Jan-Dec	---	---	---	---	---
Badlands-----	---	Jan-Dec	---	---	---	---	---
444: Elkhills-----	B	Jan-Dec	---	---	---	---	---
445: Sodic Haplocambids, thick--	C	Jan-Dec	---	---	---	---	---
Elkhills-----	B	Jan-Dec	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
451: Beam-----	D	Jan-Dec	---	---	---	---	---
Panoza-----	C	Jan-Dec	---	---	---	---	---
Hillbrick-----	D	Jan-Dec	---	---	---	---	---
460: Geghus-----	B	Jan-Dec	---	---	---	---	---
Tecuya-----	B	Jan-Dec	---	---	---	---	---
461: Geghus-----	B	Jan-Dec	---	---	---	---	---
Tecuya-----	B	Jan-Dec	---	---	---	---	---
462: Geghus-----	B	Jan-Dec	---	---	---	---	---
Xeric Torriorthents, very gravelly-----	B	Jan-Dec	---	---	---	---	---
470: Pyxo-----	C	Jan-Dec	---	---	---	---	---
Cochora-----	D	Jan-Dec	---	---	---	---	---
471: Pyxo-----	C	Jan-Dec	---	---	---	---	---
Cochora-----	D	Jan-Dec	---	---	---	---	---
Badlands-----	---	Jan-Dec	---	---	---	---	---
472: Pyxo-----	C	Jan-Dec	---	---	---	---	---
Kimberlina-----	B	Jan-Dec	---	---	---	---	---
Cochora-----	D	Jan-Dec	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
480: Pyxo, dry-----	C	Jan-Dec	---	---	---	---	---
Elkhills-----	B	Jan-Dec	---	---	---	---	---
490: Padres-----	B	Jan-Dec	---	---	---	---	---
500: Bitcreek-----	C	Jan-Dec	---	---	---	---	---
510: Beam-----	D	Jan-Dec	---	---	---	---	---
Panoza-----	C	Jan-Dec	---	---	---	---	---
Hillbrick-----	D	Jan-Dec	---	---	---	---	---
511: Beam-----	D	Jan-Dec	---	---	---	---	---
Panoza-----	C	Jan-Dec	---	---	---	---	---
Hillbrick-----	D	Jan-Dec	---	---	---	---	---
515: Zonap-----	C	Jan-Dec	---	---	---	---	---
Badlands-----	---	Jan-Dec	---	---	---	---	---
Beam-----	D	Jan-Dec	---	---	---	---	---
516: Zonap-----	C	Jan-Dec	---	---	---	---	---
Beam-----	D	Jan-Dec	---	---	---	---	---
530: Tehachapi-----	B	Jan-Dec	---	---	---	---	---
531: Tehachapi-----	B	Jan-Dec	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
540: Xeric Torriorthents-----	B	Jan-Dec	---	---	---	---	---
Badlands-----	---	Jan-Dec	---	---	---	---	---
550: Elkhills-----	B	Jan-Dec	---	---	---	---	---
Welport-----	D	Jan-Dec	---	---	---	---	---
560: Laval-----	B	Jan-May	---	---	---	Very brief	Frequent
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	Very brief	Frequent
Pleitito-----	B	Jan-May	---	---	---	Very brief	Frequent
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	Very brief	Frequent
561: Laval-----	B	Jan-May	---	---	---	Very brief	Frequent
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	Very brief	Frequent
Pleitito-----	B	Jan-May	---	---	---	Very brief	Frequent
		Jun-Oct	---	---	---	---	---
		Nov-Dec	---	---	---	Very brief	Frequent
570: Hillbrick-----	D	Jan-Dec	---	---	---	---	---
Rock outcrop-----	---	Jan-Dec	---	---	---	---	---
571: Hillbrick-----	D	Jan-Dec	---	---	---	---	---
Rock outcrop-----	---	Jan-Dec	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
580: Reward-----	B	Jan-Dec	---	---	---	---	---
Hillbrick-----	D	Jan-Dec	---	---	---	---	---
581: Reward-----	B	Jan-Dec	---	---	---	---	---
583: Bellyspring-----	C	Jan-Dec	---	---	---	---	---
Panoza-----	C	Jan-Dec	---	---	---	---	---
584: Bellyspring-----	C	Jan-Dec	---	---	---	---	---
Panoza-----	C	Jan-Dec	---	---	---	---	---
585: Bellyspring-----	C	Jan-Dec	---	---	---	---	---
Panoza-----	C	Jan-Dec	---	---	---	---	---
586: Panoza-----	C	Jan-Dec	---	---	---	---	---
Beam-----	D	Jan-Dec	---	---	---	---	---
587: Panoza-----	C	Jan-Dec	---	---	---	---	---
Beam-----	D	Jan-Dec	---	---	---	---	---
588: Panoza-----	C	Jan-Dec	---	---	---	---	---
Beam-----	D	Jan-Dec	---	---	---	---	---
590: Gorman-----	B	Jan-Dec	---	---	---	---	---
Typic Xerorthents, mesic---	C	Jan-Dec	---	---	---	---	---
Xerorthents, shallow-----	D	Jan-Dec	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
591: Geghus-----	B	Jan-Dec	---	---	---	---	---
Selby-----	C	Jan-Dec	---	---	---	---	---
600: Positas-----	C	Jan-Dec	---	---	---	---	---
Bitcreek-----	C	Jan-Dec	---	---	---	---	---
610: Balcom-----	C	Jan-Dec	---	---	---	---	---
Rock outcrop-----	---	Jan-Dec	---	---	---	---	---
620: Typic Xerorthents, mesic---	C	Jan-Dec	---	---	---	---	---
Haploxerepts-----	B	Jan-Dec	---	---	---	---	---
Xerorthents, sandy-----	B	Jan-Dec	---	---	---	---	---
640: Bitcreek-----	C	Jan-Dec	---	---	---	---	---
Dibble-----	D	Jan-Dec	---	---	---	---	---
Eaglerest-----	D	Jan-Dec	---	---	---	---	---
650: Lithic Argixerolls-----	D	Jan-Dec	---	---	---	---	---
Lithic Xerorthents, mesic--	D	Jan-Dec	---	---	---	---	---
Rock outcrop-----	---	Jan-Dec	---	---	---	---	---
660: Elkhills-----	B	Jan-Dec	---	---	---	---	---
Legray-----	B	Jan-Dec	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
661: Elkhills-----	B	Jan-Dec	---	---	---	---	---
Legray-----	B	Jan-Dec	---	---	---	---	---
670: Harrisranch-----	B	Jan-Dec	---	---	---	---	---
Rock outcrop-----	---	Jan-Dec	---	---	---	---	---
680: Milham-----	B	Jan-Dec	---	---	---	---	---
690: Dibble-----	D	Jan-Dec	---	---	---	---	---
Geghus-----	B	Jan-Dec	---	---	---	---	---
700: Xerolls, loamy-skeletal----	B	Jan-Dec	---	---	---	---	---
Los gatos-----	C	Jan-Dec	---	---	---	---	---
720: Friant-----	D	Jan-Dec	---	---	---	---	---
Geghus-----	B	Jan-Dec	---	---	---	---	---
Lithic Xerorthents, thermic	D	Jan-Dec	---	---	---	---	---
724: Elkhills-----	B	Jan-Dec	---	---	---	---	---
725: Sodic Haplocambids, thick--	C	Jan-Dec	---	---	---	---	---
726: Sodic Haplocambids, thick--	C	Jan-Dec	---	---	---	---	---
727: Sodic Haplocambids, thick--	C	Jan-Dec	---	---	---	---	---
Sodic Haplocambids, thick--	C	Jan-Dec	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
728: Torriorthents, very thin---	C	Jan-Dec	---	---	---	---	---
729: Sodic Haplocambids, thick--	C	Jan-Dec	---	---	---	---	---
Torriorthents, thin-----	B	Jan-Dec	---	---	---	---	---
Torriorthents, very thin, eroded-----	C	Jan-Dec	---	---	---	---	---
730: Haplocambids, thick-----	B	Jan-Dec	---	---	---	---	---
Elkhills-----	B	Jan-Dec	---	---	---	---	---
731: Haplocambids, thick-----	B	Jan-Dec	---	---	---	---	---
Elkhills-----	B	Jan-Dec	---	---	---	---	---
732: Elkhills-----	B	Jan-Dec	---	---	---	---	---
Haplocambids, thick-----	B	Jan-Dec	---	---	---	---	---
733: Sodic Haplocambids, thick--	C	Jan-Dec	---	---	---	---	---
Torriorthents, thin-----	B	Jan-Dec	---	---	---	---	---
734: Sodic Haplocambids, thick--	C	Jan-Dec	---	---	---	---	---
Torriorthents, very thin, eroded-----	C	Jan-Dec	---	---	---	---	---
Elkhills-----	B	Jan-Dec	---	---	---	---	---
735: Sodic Haplocambids, thick--	C	Jan-Dec	---	---	---	---	---
Elkhills-----	B	Jan-Dec	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
735: Torriorthents, thin-----	B	Jan-Dec	---	---	---	---	---
750: Ballinger-----	D	Jan-Dec	---	---	---	---	---
760: Ballinger-----	D	Jan-Dec	---	---	---	---	---
780: Stutzville-----	C	Jan-Mar Apr-Oct Nov-Dec	---	---	---	Brief --- Brief	Occasional --- Occasional
850: Xerofluvents-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	Long --- Long	Frequent --- Frequent
860: Hawk-----	B	Jan-May Jun-Oct Nov-Dec	---	---	---	---	Rare --- Rare
870: Frazier-----	B	Jan-Dec	---	---	---	---	---
880: Chuchupate-----	B	Jan-Dec	---	---	---	---	---
890: Gorman-----	B	Jan-Dec	---	---	---	---	---
919: Zonap-----	C	Jan-Dec	---	---	---	---	---
Harrisranch-----	B	Jan-Dec	---	---	---	---	---
Beam-----	D	Jan-Dec	---	---	---	---	---
930: Bitcreek-----	C	Jan-Dec	---	---	---	---	---
Shimmon-----	C	Jan-Dec	---	---	---	---	---
Balhud-----	D	Jan-Dec	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water Table		Ponding	Flooding	
			Upper limit	Lower limit	Frequency	Duration	Frequency
932: Bitcreek-----	C	Jan-Dec	---	---	---	---	---
Shimmon-----	C	Jan-Dec	---	---	---	---	---
Balhud-----	D	Jan-Dec	---	---	---	---	---
940: Bitcreek-----	C	Jan-Dec	---	---	---	---	---
950: Pleito-----	B	Jan-Dec	---	---	---	---	---
Ballinger-----	D	Jan-Dec	---	---	---	---	---
Balhud-----	D	Jan-Dec	---	---	---	---	---
951: Bitcreek-----	C	Jan-Dec	---	---	---	---	---
Balhud-----	D	Jan-Dec	---	---	---	---	---
Ballinger-----	D	Jan-Dec	---	---	---	---	---
954: Typic Haploxera1fs, fine---	D	Jan-Dec	---	---	---	---	---
Haploxerolls, coarse-loamy-	C	Jan-Dec	---	---	---	---	---
955: Calcic Haploxerepts-----	C	Jan-Dec	---	---	---	---	---
Xerorthents, shallow-----	D	Jan-Dec	---	---	---	---	---
Badlands-----	---	Jan-Dec	---	---	---	---	---
970: Harrisranch-----	B	Jan-Dec	---	---	---	---	---
Bitcreek-----	C	Jan-Dec	---	---	---	---	---

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features

[See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		<i>In</i>				
101: Bakersfield, drained-----	---	---	---	None	Moderate	Low
102: Bakersfield, partially drained-----	---	---	---	None	Moderate	Low
110: Buttonwillow, partially drained-----	---	---	---	None	Moderate	Low
120: Granos-----	---	---	---	None	Low	Low
121: Granos-----	---	---	---	None	Low	Low
122: Granos, loamy substratum-----	---	---	---	None	Low	Low
123: Granos-----	---	---	---	None	Low	Low
124: Granos-----	---	---	---	None	Low	Low
130: Cerini-----	---	---	---	None	Low	Low
131: Calflax-----	---	---	---	None	Moderate	Low
132: Cerini-----	---	---	---	None	Low	Low
133: Calflax-----	---	---	---	None	Moderate	Low
134: Cerini-----	---	---	---	None	Low	Low
140: Copus silty clay, partially drained-----	---	---	---	None	High	High
141: Copus clay, partially drained-----	---	---	---	None	High	High
150: Excelsior-----	---	---	---	None	Low	Low
151: Excelsior, saline-sodic-----	---	---	---	None	Low	Low
152: Excelsior-----	---	---	---	None	Low	Low
153: Tupman-----	---	---	---	None	Low	Low

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
154: Tupman-----	---	<i>In</i>	---	None	Low	Low
Urban land.						
160: Fages-----	---	---	---	None	High	Low
179: Padres-----	---	---	---	None	High	Low
180: Garces-----	Natric horizon	7-20	Noncemented	None	Low	Low
190: Guijarral-----	---	---	---	None	Low	Low
191: Guijarral-----	---	---	---	None	Low	Low
192: Guijarral-----	---	---	---	None	Low	Low
Klipstein-----	---	---	---	None	Low	Low
193: Guijarral-----	---	---	---	None	Low	Low
195: Guijarral, extremely gravelly substratum-----	---	---	---	None	Low	Low
Guijarral-----	---	---	---	None	Low	Low
197: Klipstein-----	---	---	---	None	Low	Low
Guijarral-----	---	---	---	None	Low	Low
200: Hesperia-----	---	---	---	None	Low	Low
201: Hesperia-----	---	---	---	None	High	Low
210: Kimberlina-----	---	---	---	None	High	Low
211: Kimberlina-----	---	---	---	None	Low	Low
212: Kimberlina, saline-sodic-----	---	---	---	None	High	High
214: Kimberlina-----	---	---	---	None	Low	Low
215: Kimberlina-----	---	---	---	None	High	Low

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
216:		<i>In</i>				
Kimberlina, occasionally flooded----	---	---	---	None	Low	Low
Granoso, occasionally flooded-----	---	---	---	None	Low	Low
217:						
Kimberlina-----	---	---	---	None	Low	Low
Urban land-----	---	---	---	None	---	---
219:						
Xerorthents-----	Lithic bedrock	16-36	Very strongly cemented	None	High	Low
Badlands-----	---	---	---	None	---	---
220:						
Lokern, drained-----	---	---	---	None	High	Low
221:						
Lokern, partially drained-----	---	---	---	None	High	Low
230:						
Milagro-----	---	---	---	None	Low	Low
231:						
Milagro-----	---	---	---	None	Low	Low
240:						
Millox, partially drained-----	---	---	---	None	High	Low
241:						
Millox, partially drained, nonsaline	---	---	---	None	High	Low
242:						
Millox, partially drained-----	---	---	---	None	High	Low
Tennco-----	Natric horizon	2-8	Noncemented	None	High	Low
243:						
Millox, partially drained-----	---	---	---	None	High	Low
Zalvidea, partially drained-----	---	---	---	None	Moderate	Low
246:						
Whitewolf-----	---	---	---	None	High	Low
250:						
Oldriver-----	---	---	---	None	High	Low
251:						
Oldriver, partially drained, sodic--	---	---	---	None	High	Low
260:						
Panoche-----	---	---	---	None	Low	Low
270:						
Pits. Dumps.						
280:						
Premier-----	---	---	---	None	Low	Low

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
281: Premier-----	---	<i>In</i>	---	None	Low	Low
290: Riverwash.						
300: Tennco-----	Natric horizon	2-8	Noncemented	None	Low	Low
310: Vineland, drained-----	---	---	---	None	Low	Low
312: Vineland, drained-----	---	---	---	None	Low	Low
Bakersfield, drained-----	---	---	---	None	Low	Low
320: Wasco-----	---	---	---	None	Low	Low
330: Cuyama-----	---	---	---	None	Low	Low
331: Cuyama-----	---	---	---	None	Low	Low
332: Cuyama-----	---	---	---	None	Low	Low
340: Weedpatch-----	---	---	---	None	Moderate	Low
350: Posochanet, saline-sodic-----	---	---	---	None	High	Low
351: Posochanet, saline-sodic-----	---	---	---	None	High	Low
352: Posochanet-----	---	---	---	None	High	Low
Posochanet, partially reclaimed-----	---	---	---	None	Moderate	Low
360: Wheelridge-----	---	---	---	None	Low	Low
370: Whitewolf-----	---	---	---	None	High	Low
371: Whitewolf-----	---	---	---	None	Low	Low
380: Zalvidea, partially drained-----	---	---	---	None	Moderate	Low
381: Zalvidea, partially drained-----	---	---	---	None	Moderate	Low

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		<i>In</i>				
389: Xerofluvents-----	---	---	---	None	Low	Low
Haploxerepts-----	---	---	---	None	Low	Low
Riverwash-----	---	---	---	None	---	---
390: Pleito-----	---	---	---	None	Low	Low
391: Pleito-----	---	---	---	None	Low	Low
392: Pleito-----	---	---	---	None	Low	Low
393: Pleito-----	---	---	---	None	Low	Low
394: Pleito-----	---	---	---	None	Low	Low
Xeric Torriorthents, very gravelly--	Lithic bedrock	20-36	Very strongly cemented	None	Low	Low
395: Pleito-----	---	---	---	None	Low	Low
Emidio-----	---	---	---	None	Low	Low
Loslobos-----	---	---	---	None	Low	Low
396: Pleito-----	---	---	---	None	Low	Low
Loslobos-----	---	---	---	None	Low	Low
398: Calcic Haploxerepts-----	---	---	---	None	Moderate	Low
Calcic Pachic Argixerolls, fine-----	---	---	---	None	Moderate	Low
Xerorthents, shallow-----	Paralithic bedrock	10-20	Weakly cemented	None	Moderate	Low
400: Loslobos-----	---	---	---	None	Low	Low
Xeric Torriorthents, very gravelly--	Lithic bedrock	20-36	Very strongly cemented	None	Low	Low
Badlands.						
401: Loslobos-----	---	---	---	None	Low	Low
402: Loslobos-----	---	---	---	None	Low	Low
Walong-----	Paralithic bedrock	20-40	Weakly cemented	None	Low	Low

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
403: Loslobos-----	---	<i>In</i>	---	None	Low	Low
Calleguas-----	Paralithic bedrock	10-20	Moderately cemented	None	Low	Low
404: Loslobos, moist-----	---	---	---	None	Low	Low
430: Littlesignal-----	Paralithic bedrock	40-60	Weakly cemented	None	High	High
Cochora-----	Paralithic bedrock	14-20	Weakly cemented	None	Low	Low
431: Littlesignal-----	Paralithic bedrock	40-60	Weakly cemented	None	High	High
Cochora-----	Paralithic bedrock	14-20	Weakly cemented	None	Low	Low
432: Littlesignal-----	Paralithic bedrock	40-60	Weakly cemented	None	High	High
Badlands-----	---	---	---	None	Low	Low
Cochora-----	Paralithic bedrock	14-20	Weakly cemented	None	Low	Low
440: Elkhills-----	---	---	---	None	Low	Low
Pyxo-----	Paralithic bedrock	20-40	Weakly cemented	None	Low	Low
441: Sodic Haplocambids, thick-----	---	---	---	None	Moderate	Low
442: Elkhills-----	---	---	---	None	Low	Low
443: Elkhills-----	---	---	---	None	Low	Low
Badlands-----	---	---	---	None	---	---
444: Elkhills-----	---	---	---	None	Low	Low
445: Sodic Haplocambids, thick-----	---	---	---	None	Moderate	Low
Elkhills-----	---	---	---	None	Low	Low
451: Beam-----	Paralithic bedrock	10-20	Moderately cemented	None	High	Low

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
451:		<i>In</i>				
Panoza-----	Paralithic bedrock	20-40	Moderately cemented	None	High	Low
Hillbrick-----	Lithic bedrock	10-20	Very strongly cemented	None	High	Low
460:						
Geghus-----	---	---	---	None	Moderate	Low
Tecuya-----	---	---	---	None	Low	Low
461:						
Geghus-----	---	---	---	None	Moderate	Low
Tecuya-----	---	---	---	None	Low	Low
462:						
Geghus-----	Lithic bedrock	40-50	Very strongly cemented	None	High	Low
Xeric Torriorthents, very gravelly--	Lithic bedrock	20-36	Very strongly cemented	None	Moderate	Low
470:						
Pyxo-----	Paralithic bedrock	20-40	Weakly cemented	None	High	Low
Cochora-----	Paralithic bedrock	12-20	Weakly cemented	None	High	Low
471:						
Pyxo-----	Paralithic bedrock	20-40	Weakly cemented	None	High	Low
Cochora-----	Paralithic bedrock	12-20	Weakly cemented	None	High	Low
Badlands-----	---	---	---	None	---	---
472:						
Pyxo-----	Paralithic bedrock	20-40	Weakly cemented	None	Low	Low
Kimberlina-----	---	---	---	None	Low	Low
Cochora-----	Paralithic bedrock	14-20	Weakly cemented	None	Low	Low
480:						
Pyxo, dry-----	Paralithic bedrock	20-40	Weakly cemented	None	Low	Low
Elkhills-----	---	---	---	None	Low	Low
490:						
Padres-----	---	---	---	None	High	Low
500:						
Bitcreek-----	---	---	---	None	Moderate	Low

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
510:		<i>In</i>				
Beam-----	Paralithic bedrock	10-20	Moderately cemented	None	High	Low
Panoza-----	Paralithic bedrock	20-40	Moderately cemented	None	High	Low
Hillbrick-----	Lithic bedrock	10-20	Very strongly cemented	None	High	Low
511:						
Beam-----	Paralithic bedrock	10-20	Moderately cemented	None	High	Low
Panoza-----	Paralithic bedrock	20-40	Moderately cemented	None	High	Low
Hillbrick-----	Lithic bedrock	10-20	Very strongly cemented	None	High	Low
515:						
Zonap-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
Badlands-----	---	---	---	---	Low	Low
Beam-----	Paralithic bedrock	10-20	Moderately cemented	None	Low	Moderate
516:						
Zonap-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
Beam-----	Paralithic bedrock	10-20	Moderately cemented	None	Low	Moderate
530:						
Tehachapi-----	---	---	---	None	Moderate	Low
531:						
Tehachapi-----	---	---	---	None	Moderate	Low
540:						
Xeric Torriorthents-----	Lithic bedrock	20-60	Very strongly cemented	None	High	Low
Badlands-----	---	---	---	None	---	---
550:						
Elkhills-----	---	---	---	None	Low	Low
Welport-----	Petrocalcic horizon	10-20	Indurated	None	Moderate	Low
560:						
Laval-----	---	---	---	None	Low	Low
Pleitito-----	---	---	---	None	Low	Low

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
561:		<i>In</i>				
Laval-----	---	---	---	None	Low	Low
Pleitito-----	---	---	---	None	Low	Low
570:						
Hillbrick-----	Lithic bedrock	10-20	Very strongly cemented	None	High	Low
Rock outcrop.						
571:						
Hillbrick-----	Lithic bedrock	10-20	Very strongly cemented	None	High	Low
Rock outcrop.						
580:						
Reward-----	Lithic bedrock	40-70	Very strongly cemented	None	Low	Low
Hillbrick-----	Lithic bedrock	10-20	Very strongly cemented	None	Low	Low
581:						
Reward-----	Lithic bedrock	40-70	Very strongly cemented	None	High	Low
583:						
Bellyspring-----	Paralithic bedrock	20-40	Weakly cemented	None	Low	Low
Panoza-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
584:						
Bellyspring-----	Paralithic bedrock	20-40	Weakly cemented	None	Low	Low
Panoza-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
585:						
Bellyspring-----	Paralithic bedrock	20-40	Weakly cemented	None	Low	Low
Panoza-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
586:						
Panoza-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
Beam-----	Paralithic bedrock	10-20	Moderately cemented	None	Low	Low
587:						
Panoza-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
Beam-----	Paralithic bedrock	10-20	Moderately cemented	None	Low	Low

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
588:		<i>In</i>				
Panoza-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
Beam-----	Paralithic bedrock	10-20	Moderately cemented	None	Low	Low
590:						
Gorman-----	---	---	---	Moderate	Moderate	Low
Typic Xerorthents, mesic-----	Paralithic bedrock	24-44	Moderately cemented	None	Moderate	Low
Xerorthents, shallow-----	Paralithic bedrock	10-20	Weakly cemented	None	Low	Low
591:						
Geghus-----	---	---	---	None	Moderate	Low
Selby-----	Lithic bedrock	20-40	Very strongly cemented	None	Moderate	Low
600:						
Positas-----	---	---	---	None	Moderate	Low
Bitcreek-----	---	---	---	None	Moderate	Low
610:						
Balcom-----	Paralithic bedrock	20-40	Weakly cemented	None	Low	Low
Rock outcrop.						
620:						
Typic Xerorthents, mesic-----	Paralithic bedrock	24-44	Moderately cemented	None	Low	Low
Haploxerepts-----	---	---	---	None	Low	Low
Xerorthents, sandy-----	Paralithic bedrock	40-60	Weakly cemented	None	Low	Low
640:						
Bitcreek-----	---	---	---	None	Moderate	Low
Dibble-----	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	Low
Eaglerest-----	Paralithic bedrock	10-20	Moderately cemented	None	Moderate	Low
650:						
Lithic Argixerolls-----	Lithic bedrock	10-20	Very strongly cemented	None	Low	Low
Lithic Xerorthents, mesic-----	Lithic bedrock	8-19	Very strongly cemented	None	Low	Low
Rock outcrop.						

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		<i>In</i>				
660: Elkhills-----	---	---	---	None	Low	Low
Legray-----	---	---	---	None	Low	Low
661: Elkhills-----	---	---	---	None	Low	Low
Legray-----	---	---	---	None	Low	Low
670: Harrisranch-----	---	---	---	Moderate	Low	Low
Rock outcrop.						
680: Milham-----	---	---	---	None	Low	Low
690: Dibble-----	Paralithic bedrock	20-40	Moderately cemented	None	Moderate	Low
Geghus-----	---	---	---	None	Moderate	Low
700: Xerolls, loamy-skeletal-----	---	---	---	Moderate	Low	Low
Los Gatos-----	Lithic bedrock	25-41	Very strongly cemented	Moderate	Low	Low
720: Friant-----	Lithic bedrock	4-20	Very strongly cemented	None	Low	Low
Geghus-----	---	---	---	None	Low	Low
Lithic Xerorthents, thermic-----	Lithic bedrock	4-16	Very strongly cemented	None	Low	Low
724: Elkhills-----	---	---	---	None	Low	Low
725: Sodic Haplocambids, thick-----	---	---	---	None	Moderate	Low
726: Sodic Haplocambids, thick-----	---	---	---	None	Low	Low
727: Sodic Haplocambids, thick-----	---	---	---	None	Moderate	Low
728: Torriorthents, very thin-----	Paralithic bedrock	20-40	Weakly cemented	None	Moderate	Low
729: Sodic Haplocambids, thick-----	---	---	---	None	Moderate	Low
Torriorthents, thin-----	---	---	---	None	Moderate	Low
Torriorthents, very thin, eroded----	Paralithic bedrock	20-40	Weakly cemented	None	Moderate	Low

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		<i>In</i>				
730: Haplocambids, thick-----	---	---	---	None	Low	Low
Elkhills-----	---	---	---	None	Low	Low
731: Haplocambids, thick-----	---	---	---	None	Low	Low
Elkhills-----	---	---	---	None	Low	Low
732: Elkhills-----	---	---	---	None	Low	Low
Haplocambids, thick-----	---	---	---	None	Low	Low
733: Sodic Haplocambids, thick-----	---	---	---	None	Low	Low
Torriorthents, thin-----	---	---	---	None	High	High
734: Sodic Haplocambids, thick-----	---	---	---	None	Low	Low
Torriorthents, very thin, eroded----	Paralithic bedrock	20-40	Weakly cemented	None	High	High
Elkhills-----	---	---	---	None	Low	Low
735: Sodic Haplocambids, thick-----	---	---	---	None	Low	Low
Elkhills-----	---	---	---	None	Low	Low
Torriorthents, thin-----	---	---	---	None	Moderate	Low
750: Ballinger-----	Paralithic bedrock	20-40	Weakly cemented	None	High	High
760: Ballinger-----	Paralithic bedrock	20-40	Weakly cemented	None	High	High
780: Stutzville-----	Salic horizon	1	Noncemented	None	High	High
850: Xerofluvents-----	---	---	---	None	Low	Low
860: Hawk-----	---	---	---	Moderate	Low	Low
870: Frazier-----	Lithic bedrock	20-40	Very strongly cemented	Moderate	Low	Low
880: Chuchupate-----	Lithic bedrock	26-46	Very strongly cemented	Moderate	Low	Low
890: Gorman-----	---	---	---	None	Moderate	Low

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
919:		<i>In</i>				
Zonap-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
Harrisranch-----	---	---	---	None	Low	Low
Beam-----	Paralithic bedrock	10-20	Moderately cemented	None	Low	Low
930:						
Bitcreek-----	---	---	---	None	Moderate	Low
Shimmon-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
Balhud-----	Paralithic bedrock	10-20	Moderately cemented	None	Low	Low
	Lithic bedrock	12-28	Very strongly cemented			
932:						
Bitcreek-----	---	---	---	None	Moderate	Low
Shimmon-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
Balhud-----	Paralithic bedrock	10-20	Moderately cemented	None	Low	Low
	Lithic bedrock	12-28	Very strongly cemented			
940:						
Bitcreek-----	---	---	---	None	Moderate	Low
950:						
Pleito-----	---	---	---	None	Low	Low
Ballinger-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
Balhud-----	Paralithic bedrock	10-20	Moderately cemented	None	Low	Low
	Lithic bedrock	12-28	Very strongly cemented			
951:						
Bitcreek-----	---	---	---	None	Moderate	Low
Balhud-----	Paralithic bedrock	10-20	Moderately cemented	None	Low	Low
	Lithic bedrock	12-28	Very strongly cemented			
Ballinger-----	Paralithic bedrock	20-40	Moderately cemented	None	Low	Low
954:						
Typic Haploxeralfs, fine-----	Paralithic bedrock	20-34	Moderately cemented	Moderate	High	Low
Haploxerolls, coarse-loamy-----	Lithic bedrock	20-40	Very strongly cemented	Moderate	Low	Low

Soil Survey of Kern County, California, Southwest Part

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
955:		<i>In</i>				
Calcic Haploxerepts-----	---	---	---	None	Moderate	Low
Xerorthents, shallow-----	Paralithic bedrock	10-20	Weakly cemented	None	Moderate	Low
Badlands.						
970:						
Harrisranch-----	---	---	---	None	Low	Low
Bitcreek-----	---	---	---	None	Low	Low
980:						
Area not surveyed, access denied.						
W:						
Water.						

Soil Survey of Kern County, California, Southwest Part

Table 24.--Taxonomic Classification of the Soils

Soil name	Family or higher taxonomic class
Bakersfield-----	Coarse-loamy, mixed, superactive, thermic Torrifluventic Haploxerolls
Balcom-----	Fine-loamy, mixed, superactive, thermic Typic Calcixerpts
Balhud-----	Fine-loamy, mixed, superactive, thermic, shallow Typic Argixerolls
Ballinger-----	Fine, smectitic, thermic Xeric Haplogypsids
Beam-----	Loamy, mixed, superactive, thermic, shallow Xeric Haplocambids
Bellyspring-----	Fine-loamy, mixed, superactive, thermic Mollic Haploxeralfs
Bitcreek-----	Fine-loamy, mixed, superactive, thermic Pachic Argixerolls
Buttonwillow-----	Clayey over loamy, smectitic, nonacid, thermic Vertic Torrifluvents
Calcic Haploxerepts-----	Calcic Haploxerepts
Calcic Pachic Argixerolls-----	Fine Calcic Pachic Argixerolls
Calflax-----	Fine-loamy, mixed, superactive, thermic Sodic Haplocambids
Calleguas-----	Loamy, mixed, superactive, calcareous, thermic, shallow Typic Xerorthents
Cerini-----	Fine-loamy, mixed, superactive, thermic Fluventic Haplocambids
Chuchupate-----	Loamy-skeletal, mixed, superactive, mesic Typic Haploxerolls
Cochora-----	Loamy, mixed, superactive, calcareous, thermic, shallow Typic Torriorthents
Copus-----	Fine, smectitic, thermic Xeric Endoaquerts
Cuyama-----	Fine-loamy, mixed, superactive, thermic Xeric Haplargids
Dibble-----	Fine, smectitic, thermic Typic Haploxeralfs
Eaglerest-----	Loamy-skeletal, mixed, superactive, thermic Typic Haploxeralfs
Elkhills-----	Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents
Emidio-----	Fine-loamy, mixed, superactive, thermic Calcic Pachic Haploxerolls
Excelsior-----	Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torrifluvents
Fages-----	Fine, smectitic, thermic Sodic Haplocambids
Frazier-----	Loamy-skeletal, mixed, superactive, mesic Typic Haploxerepts
Friant-----	Loamy, mixed, superactive, thermic Lithic Haploxerolls
Garces-----	Fine-loamy, mixed, superactive, thermic Typic Natrargids
Geghus-----	Fine-loamy, mixed, superactive, thermic Typic Argixerolls
Gorman-----	Fine-loamy, mixed, superactive, mesic Pachic Argixerolls
Granoso-----	Mixed, thermic Typic Torripsamments
Guijarral-----	Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Haplocambids-----	Haplocambids
Haploxerepts-----	Haploxerepts
Haploxerolls-----	Coarse-loamy Haploxerolls
Harrisranch-----	Coarse-loamy, mixed, superactive, mesic Pachic Haploxerolls
Hawk-----	Loamy-skeletal, mixed, superactive, mesic Pachic Haploxerolls
Hesperia-----	Coarse-loamy, mixed, superactive, nonacid, thermic Xeric Torriorthents
Hillbrick-----	Loamy, mixed, superactive, calcareous, thermic Lithic Xerorthents
Kimberlina-----	Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents
Klipstein-----	Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Laval-----	Sandy-skeletal, mixed, thermic Xeric Torrifluvents
Legray-----	Sandy-skeletal, mixed, thermic Typic Haplocambids
Lithic Argixerolls-----	Mixed, superactive, mesic Lithic Argixerolls
Littlesignal-----	Coarse-loamy, mixed, superactive, thermic Typic Calcigydsids
Lokern-----	Fine, smectitic, nonacid, thermic Vertic Torrifluvents
Los Gatos-----	Fine-loamy, mixed, active, mesic Typic Argixerolls
Loslobos-----	Coarse-loamy, mixed, superactive, thermic Pachic Calcixerolls
Mesic Lithic Xerorthents-----	Mesic Lithic Xerorthents
Milagro-----	Coarse-loamy, mixed, superactive, nonacid, thermic Typic Torrifluvents
Milham-----	Fine-loamy, mixed, superactive, thermic Typic Haplargids
Millox-----	Fine, smectitic, thermic Sodic Haplotorrerts
Oldriver-----	Fine-loamy, mixed, superactive, thermic Torrifluventic Haploxerolls
Padres-----	Coarse-loamy, mixed, superactive, thermic Typic Calcixerpts
Panoche-----	Fine-loamy, mixed, superactive, thermic Typic Haplocambids
Panoza-----	Fine-loamy, mixed, superactive, thermic Calcic Haploxerepts
Pleitito-----	Coarse-loamy, mixed, superactive, calcareous, thermic Typic Xerofluvents
Pleito-----	Fine-loamy, mixed, superactive, thermic Calcic Pachic Haploxerolls
Positas-----	Fine, smectitic, thermic Mollic Palaxeralfs
Posochanet-----	Fine-silty, mixed, superactive, thermic Sodic Haplocambids
Premier-----	Coarse-loamy, mixed, superactive, calcareous, thermic Xeric Torriorthents
Pyxo-----	Coarse-loamy, mixed, superactive, thermic Typic Haplocambids
Reward-----	Fine-loamy, mixed, superactive, thermic Pachic Haploxerolls
Selby-----	Loamy-skeletal, mixed, superactive, thermic Typic Argixerolls
Shimmon-----	Fine-loamy, mixed, superactive, thermic Typic Argixerolls
Sodic Haplocambids-----	Sodic Haplocambids

Soil Survey of Kern County, California, Southwest Part

Table 24.--Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Stutzville-----	Fine-loamy, mixed, superactive, thermic Typic Haplosalids
Tecuya-----	Loamy-skeletal, mixed, superactive, thermic Typic Calcixerolls
Tehachapi-----	Fine-loamy, mixed, active, thermic Typic Argixerolls
Tennco-----	Coarse-loamy, mixed, superactive, thermic Typic Natrargids
Thermic Lithic Xerorthents	Thermic Lithic Xerorthents
Torriorthents-----	Torriorthents
Tupman-----	Coarse-loamy, mixed, superactive, thermic Fluventic Haplocambids
Typic Haploxeralfs-----	Fine Typic Haploxeralfs
Typic Xerorthents-----	Mesic Typic Xerorthents
Vineland-----	Sandy, mixed, thermic Typic Torrifluvents
Walong-----	Coarse-loamy, mixed, superactive, thermic Typic Haploxerolls
Wasco-----	Coarse-loamy, mixed, superactive, nonacid, thermic Typic Torriorthents
Weedpatch-----	Fine-loamy, mixed, superactive, thermic Typic Haplocalcids
Welpport-----	Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids
Wheelridge-----	Mixed, thermic Xeric Torripsamments
Whitewolf-----	Mixed, thermic Xeric Torripsamments
Xeric Torriorthents-----	Xeric Torriorthents
Xerofluvents-----	Xerofluvents
Xerolls-----	Loamy-skeletal Xerolls
Xerorthents-----	Shallow Xerorthents
Xerorthents-----	Xerorthents
Zalvidea-----	Coarse-loamy, gypsic, thermic Typic Haplogypsid
Zonap-----	Coarse-loamy, mixed, superactive, calcareous, thermic Xeric Torriorthents

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