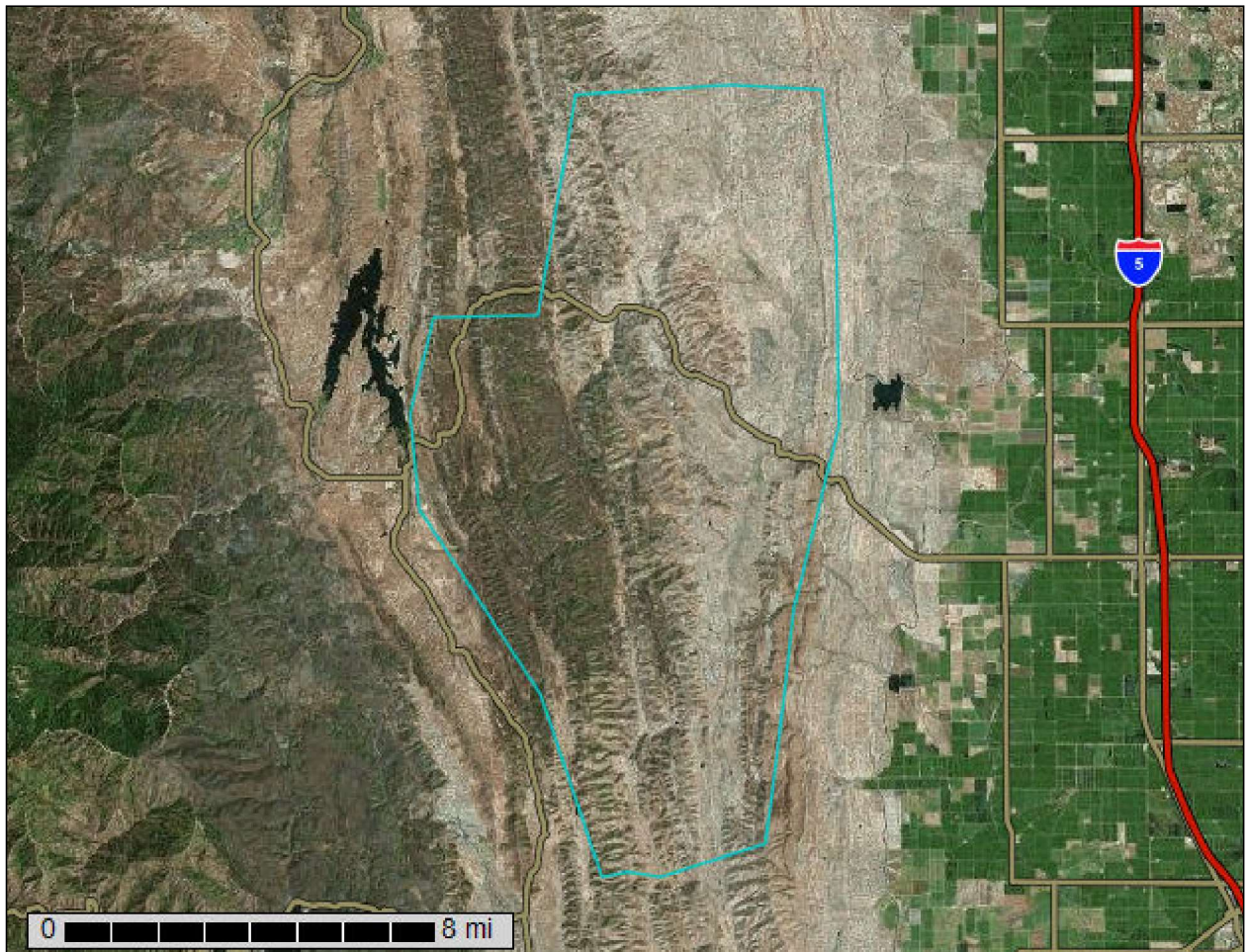


# Custom Soil Resource Report for Colusa County, California, and Glenn County, California

## Sites-West



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is 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://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

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.

The National Cooperative Soil Survey is 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 (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various 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 observed and described many soil profiles. A soil profile 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 or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a 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

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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.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

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

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

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and



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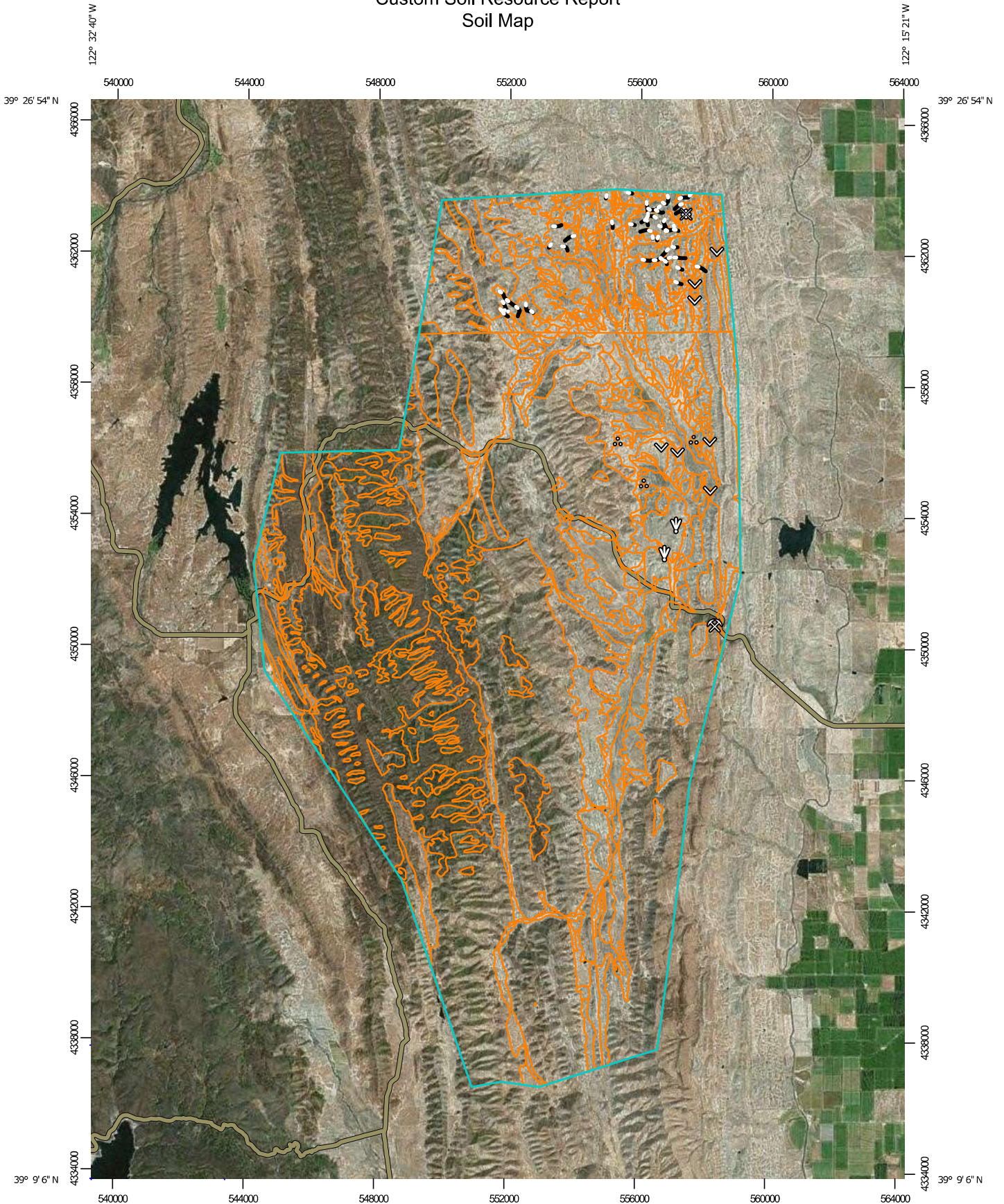
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

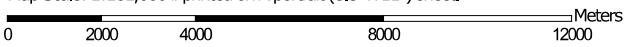
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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map








































Map Scale: 1:161,000 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

## MAP LEGEND

 Area of Interest (AOI)	 Spoil Area
 Soil Map Unit Polygons	 Stony Spot
 Soil Map Unit Lines	 Very Stony Spot
 Soil Map Unit Points	 Wet Spot
 Special Point Features	 Other
 Blowout	 Special Line Features
 Borrow Pit	 Streams and Canals
 Clay Spot	 Rails
 Closed Depression	 Interstate Highways
 Gravel Pit	 US Routes
 Gravelly Spot	 Major Roads
 Landfill	 Local Roads
 Lava Flow	 Aerial Photography
 Marsh or swamp	
 Mine or Quarry	
 Miscellaneous Water	
 Perennial Water	
 Rock Outcrop	
 Saline Spot	
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
 Slide or Slip	
 Sodic Spot	

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:20,000 to 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Colusa County, California  
 Survey Area Data: Version 16, Jun 1, 2020

Soil Survey Area: Glenn County, California  
 Survey Area Data: Version 16, Jun 1, 2020

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 1, 1999—Dec 31, 2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

**MAP LEGEND**

**MAP INFORMATION**

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
144	Hillgate clay loam, 0 to 2 percent slopes	29.6	0.0%
147	Hillgate loam, 1 to 5 percent slopes	451.5	0.6%
200	Clear Lake clay, drained, 0 to 8 percent slopes, MLRA 15	176.7	0.3%
205	Capay clay, 0 to 3 percent slopes	1,983.1	2.8%
206	Capay clay, 5 to 9 percent slopes	1,903.6	2.7%
210	Corval loam, 0 to 3 percent slopes	2,075.2	2.9%
215	Altamont-Sehorn complex, 15 to 30 percent slopes	2,392.3	3.4%
216	Altamont-Sehorn complex, 9 to 15 percent slopes	1,048.8	1.5%
218	Sehorn-Altamont complex, 30 to 50 percent slopes	9,301.2	13.2%
220	Altamont silty clay, 5 to 9 percent slopes	390.2	0.6%
221	Altamont silty clay, 9 to 15 percent slopes	519.5	0.7%
230	Corning clay loam, 1 to 5 percent slopes	362.7	0.5%
241	Contra Costa-Altamont association, 30 to 50 percent slopes	392.0	0.6%
255	Millsholm-Rock outcrop complex, 9 to 30 percent slopes	101.5	0.1%
261	Millsholm-Altamont complex, 15 to 30 percent slopes	129.0	0.2%
300	Contra Costa-Millsholm complex, 50 to 75 percent slopes	10,675.0	15.1%
305	Contra Costa loam, 50 to 75 percent slopes	4,514.3	6.4%
311	Contra Costa loam, 9 to 15 percent slopes	108.8	0.2%
315	Mallard clay loam, 2 to 5 percent slopes	110.5	0.2%
316	Hillgate loam, 5 to 9 percent slopes	1,416.8	2.0%
320	Millsholm loam, 0 to 30 percent slopes, MLRA 15	364.2	0.5%

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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
329	Sehorn-Millsholm-Altamont complex, 15 to 30 percent slopes	13.2	0.0%
330	Millsholm-Contra Costa complex, 15 to 30 percent slopes	162.4	0.2%
331	Sehorn-Millsholm-Rock outcrop complex, 30 to 50 percent slopes	1,369.2	1.9%
332	Millsholm-Rock outcrop association, 30 to 75 percent slopes	1,283.2	1.8%
334	Millsholm-Contra Costa association, 30 to 75 percent slopes	19,693.7	27.9%
652	Water	32.9	0.0%
<b>Subtotals for Soil Survey Area</b>		<b>61,001.2</b>	<b>86.5%</b>
<b>Totals for Area of Interest</b>		<b>70,544.0</b>	<b>100.0%</b>

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AaA	Altamont clay, 0 to 3 percent slopes	3.7	0.0%
AaC	Altamont clay, 3 to 15 percent slopes	65.8	0.1%
AdC	Altamont soils, 3 to 15 percent slopes	0.7	0.0%
AdD	Altamont soils, 15 to 30 percent slopes	401.0	0.6%
AdE	Altamont soils, 30 to 65 percent slopes	993.2	1.4%
AfsD	Altamont-Gullied land complex, shallow, 10 to 30 percent slopes	15.4	0.0%
AfsE	Altamont-Gullied land complex, shallow, 30 to 65 percent slopes	73.6	0.1%
AgE	Altamont-Rocky gullied land complex, 15 to 45 percent slopes	107.2	0.2%
AhC	Altamont-Contra Costa clays, 8 to 15 percent slopes	27.8	0.0%
AhD	Altamont-Contra Costa clays, 15 to 30 percent slopes	476.9	0.7%
AhE	Altamont-Contra Costa clays, 30 to 50 percent slopes	59.6	0.1%
AkE3	Millsholm-Altamont-Rock outcrop complex, 10 to 55 percent slopes, severely eroded, MLRA 15	345.7	0.5%

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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AmC	Altamont-Nacimiento association, 3 to 15 percent slopes	135.3	0.2%
CaA	Capay clay, 0 to 4 percent slopes, MLRA 17	224.6	0.3%
CaB	Capay clay, 0 to 11 percent slopes, MLRA 17	219.3	0.3%
CeB	Columbia fine sandy loam, 2 to 8 percent slopes	14.2	0.0%
HgB	Hillgate loam, 2 to 8 percent slopes	49.6	0.1%
HI	Hillgate clay loam, 0 to 3 percent slopes	52.7	0.1%
KmA	Kimball gravelly loam, 0 to 2 percent slopes	11.0	0.0%
KmB	Kimball gravelly loam, 2 to 10 percent slopes	31.1	0.0%
McD	Masterson gravelly loam, 10 to 30 percent slopes	4.7	0.0%
MmD	Millsholm-Rock outcrop-Gullied land complex, 5 to 30 percent slopes, MLRA 15	23.5	0.0%
MmE	Millsholm loam-Gullied land complex, 10 to 55 percent slopes, MLRA 15	185.2	0.3%
MnD	Millsholm silt loam, 10 to 30 percent slopes, MLRA 15	39.3	0.1%
MoD	Millsholm silt loam, 3 to 25 percent slopes, MLRA 15	26.0	0.0%
MoE	Millsholm-Rock outcrop complex, 10 to 50 percent slopes, MLRA 15	19.2	0.0%
MrD	Millsholm very gravelly coarse sandy loam, 5 to 20 percent slopes, MLRA 15	9.9	0.0%
MtD	Millsholm-Rock outcrop complex, 10 to 40 percent slopes, MLRA 15	0.0	0.0%
MuE	Millsholm-Rock outcrop complex, 15 to 55 percent slopes, MLRA 15	251.5	0.4%
MzrA	Myers clay, 0 to 1 percent slopes, MLRA 17	197.4	0.3%
MzrB	Myers clay, 3 to 10 percent slopes	284.3	0.4%
MzxB	Myers-Gullied land complex, 3 to 10 percent slopes	85.7	0.1%
MzyB	Myers clay loam, 3 to 8 percent slopes	25.2	0.0%
NcD	Nacimiento soils, 10 to 30 percent slopes	91.4	0.1%



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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
NcE	Nacimiento soils, 30 to 50 percent slopes	162.0	0.2%
NhC	Nacimiento-Contra Costa association, 3 to 15 percent slopes	79.6	0.1%
NhD	Nacimiento-Contra Costa association, 15 to 30 percent slopes	643.8	0.9%
NhE	Nacimiento-Contra Costa association, 30 to 50 percent slopes	487.7	0.7%
Rma	Riz silt loam, slightly saline-alkali	20.7	0.0%
Rmb	Riz silt loam, moderately saline-alkali	42.1	0.1%
Rnc	Riz silty clay loam, strongly saline-alkali	10.5	0.0%
SbC	Sehorn soils, 3 to 15 percent slopes	3.8	0.0%
SbD	Sehorn soils, 15 to 30 percent slopes	2.6	0.0%
SbE	Sehorn soils, 30 to 65 percent slopes	86.9	0.1%
ScE	Sehorn-Gullied land complex, 30 to 50 percent slopes	282.5	0.4%
SdD	Sehorn-Millsholm association, 3 to 30 percent slopes, MLRA 15	235.2	0.3%
SdE	Sehorn-Millsholm association, 15 to 50 percent slopes, MLRA 15	1,522.3	2.2%
SeD	Sehorn-Millsholm-Gullied land complex, 5 to 30 percent slopes, MLRA 15	151.0	0.2%
SeE	Sehorn-Millsholm-Gullied land complex, 10 to 45 percent slopes, MLRA 15	680.2	1.0%
TcB	Tehama clay loam, 2 to 10 percent slopes	111.4	0.2%
W	Water	7.1	0.0%
Wca	Willows clay, slightly saline-alkali	47.5	0.1%
Yd	Yolo clay loam, moderately deep over clay	15.2	0.0%
Yh	Yolo clay loam, shallow over clay	52.6	0.1%
ZbA	Zamora silty clay loam, 0 to 3 percent slopes, MLRA 17	168.7	0.2%
ZbB	Zamora silty clay loam, 2 to 8 percent slopes	177.9	0.3%

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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Subtotals for Soil Survey Area		9,542.8	13.5%
Totals for Area of Interest		70,544.0	100.0%

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

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. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. 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 important soil properties and qualities.

## Custom Soil Resource Report

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, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

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

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. Alpha-Beta complex, 0 to 6 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. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Colusa County, California

### 144—Hillgate clay loam, 0 to 2 percent slopes

#### Map Unit Setting

*National map unit symbol:* hh9d  
*Elevation:* 130 to 450 feet  
*Mean annual precipitation:* 14 to 16 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Prime farmland if irrigated

#### Map Unit Composition

*Hillgate, clay loam, and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Hillgate, Clay Loam

##### Setting

*Landform:* Terraces  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium

##### Typical profile

*A - 0 to 10 inches:* clay loam  
*ABt - 10 to 19 inches:* clay loam  
*Bt - 19 to 50 inches:* clay  
*C - 50 to 60 inches:* clay loam

##### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* 19 inches to abrupt textural change  
*Drainage class:* Well drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low (0.06 to 0.14 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 2 percent  
*Gypsum, maximum content:* 2 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 4.0  
*Available water capacity:* Low (about 3.6 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 2s  
*Land capability classification (nonirrigated):* 4s  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

### Minor Components

#### Capay, clay loam

*Percent of map unit:* 10 percent  
*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Arand, very gravelly sandy loam

*Percent of map unit:* 3 percent  
*Landform:* Flood plains  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Riverwash

*Percent of map unit:* 1 percent  
*Landform:* Channels  
*Hydric soil rating:* Yes

#### Unnamed

*Percent of map unit:* 1 percent  
*Landform:* Channels  
*Hydric soil rating:* Yes

## 147—Hillgate loam, 1 to 5 percent slopes

### Map Unit Setting

*National map unit symbol:* hh9g  
*Elevation:* 100 to 400 feet  
*Mean annual precipitation:* 14 to 16 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Hillgate, loam, and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Hillgate, Loam

#### Setting

*Landform:* Terraces  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium

## Custom Soil Resource Report

### Typical profile

*A1 - 0 to 3 inches: loam*  
*A2 - 3 to 11 inches: loam*  
*A3 - 11 to 19 inches: loam*  
*2Bt1 - 19 to 37 inches: clay*  
*2Bt2 - 37 to 52 inches: clay loam*  
*2Bt3 - 52 to 62 inches: clay loam*  
*2Bt4 - 62 to 72 inches: clay loam*

### Properties and qualities

*Slope: 1 to 5 percent*  
*Depth to restrictive feature: 19 inches to abrupt textural change*  
*Drainage class: Well drained*  
*Runoff class: Low*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 1 percent*  
*Gypsum, maximum content: 2 percent*  
*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*  
*Sodium adsorption ratio, maximum: 4.0*  
*Available water capacity: Low (about 3.0 inches)*

### Interpretive groups

*Land capability classification (irrigated): 2e*  
*Land capability classification (nonirrigated): 4e*  
*Hydrologic Soil Group: C*  
*Ecological site: R017XE061CA - Loamy Fan Remnant 8-10" P.Z.*  
*Hydric soil rating: No*

### Minor Components

#### Arbuckle, sandy loam

*Percent of map unit: 5 percent*  
*Landform: Terraces*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Hydric soil rating: No*

#### Arand, very gravelly sandy loam

*Percent of map unit: 2 percent*  
*Landform: Flood plains*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Hydric soil rating: No*

#### Westfan, loam

*Percent of map unit: 2 percent*  
*Landform: Fans*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Hydric soil rating: No*

#### Unnamed

*Percent of map unit: 1 percent*

## Custom Soil Resource Report

*Landform:* Channels  
*Hydric soil rating:* Yes

### 200—Clear Lake clay, drained, 0 to 8 percent slopes, MLRA 15

#### Map Unit Setting

*National map unit symbol:* 2vbss  
*Elevation:* 130 to 1,390 feet  
*Mean annual precipitation:* 18 to 26 inches  
*Mean annual air temperature:* 57 to 63 degrees F  
*Frost-free period:* 185 to 250 days  
*Farmland classification:* Prime farmland if irrigated and drained

#### Map Unit Composition

*Clear lake, drained, and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Clear Lake, Drained

##### Setting

*Landform:* Basin floors  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Clayey alluvium derived from metamorphic and sedimentary rock

##### Typical profile

*Ap1 - 0 to 4 inches:* clay  
*Ap2 - 4 to 10 inches:* clay  
*Bss1 - 10 to 20 inches:* clay  
*Bss2 - 20 to 34 inches:* silty clay  
*Bss3 - 34 to 47 inches:* silty clay  
*Bkss1 - 47 to 59 inches:* silty clay  
*Bkss2 - 59 to 79 inches:* silty clay

##### Properties and qualities

*Slope:* 0 to 8 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Poorly drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 4 to 72 inches  
*Frequency of flooding:* Rare  
*Frequency of ponding:* Frequent  
*Calcium carbonate, maximum content:* 4 percent  
*Maximum salinity:* Nonsaline to very slightly saline (1.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 14.0  
*Available water capacity:* Moderate (about 8.6 inches)

**Interpretive groups**

*Land capability classification (irrigated): 3w*  
*Land capability classification (nonirrigated): 4w*  
*Hydrologic Soil Group: C/D*  
*Ecological site: R015XE086CA - CLAYEY BOTTOM*  
*Hydric soil rating: Yes*

**Minor Components**

**Capay, clay loam, occasionally flooded, drained**

*Percent of map unit: 7 percent*  
*Landform: Basin floors*  
*Landform position (two-dimensional): Toeslope*  
*Landform position (three-dimensional): Tread*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Hydric soil rating: No*

**Altamont, silty clay**

*Percent of map unit: 2 percent*  
*Landform: Hills*  
*Landform position (two-dimensional): Backslope, footslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Ecological site: R015XE001CA - Clayey Hills 10-14" p.z.*  
*Hydric soil rating: No*

**Riverwash**

*Percent of map unit: 1 percent*  
*Landform: Channels*  
*Hydric soil rating: Yes*

**205—Capay clay, 0 to 3 percent slopes**

**Map Unit Setting**

*National map unit symbol: hhb2*  
*Elevation: 180 to 1,200 feet*  
*Mean annual precipitation: 16 to 28 inches*  
*Mean annual air temperature: 57 to 61 degrees F*  
*Frost-free period: 225 to 250 days*  
*Farmland classification: Prime farmland if irrigated*

**Map Unit Composition**

*Capay, clay, and similar soils: 90 percent*  
*Minor components: 10 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*



## Description of Capay, Clay

### Setting

*Landform:* Basin floors  
*Landform position (two-dimensional):* Toeslope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium

### Typical profile

*Ap - 0 to 4 inches:* clay  
*A - 4 to 11 inches:* clay  
*Bss1 - 11 to 23 inches:* clay  
*Bss2 - 23 to 30 inches:* clay  
*Bss3 - 30 to 43 inches:* clay  
*Bss4 - 43 to 58 inches:* clay  
*Bss5 - 58 to 74 inches:* clay  
*Bss6 - 74 to 90 inches:* clay  
*Bss7 - 90 to 102 inches:* clay

### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Moderately well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Low to moderately low  
(0.00 to 0.06 in/hr)  
*Depth to water table:* About 48 to 72 inches  
*Frequency of flooding:* RareNone  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 2 percent  
*Maximum salinity:* Nonsaline (0.0 to 1.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 5.0  
*Available water capacity:* Moderate (about 9.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2s  
*Land capability classification (nonirrigated):* 4s  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XE084CA - FINE LOAMY BOTTOM  
*Hydric soil rating:* No

## Minor Components

### Capay, clay, occasionally flooded

*Percent of map unit:* 5 percent  
*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### Clear lake, clay

*Percent of map unit:* 2 percent  
*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear

## Custom Soil Resource Report

*Hydric soil rating:* Yes

### **Altamont, silty clay**

*Percent of map unit:* 2 percent

*Landform:* Hills

*Landform position (two-dimensional):* Footslope, backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

### **Unnamed**

*Percent of map unit:* 1 percent

*Landform:* Channels

*Hydric soil rating:* Yes

## **206—Capay clay, 5 to 9 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hhb3

*Elevation:* 180 to 400 feet

*Mean annual precipitation:* 16 to 22 inches

*Mean annual air temperature:* 57 to 61 degrees F

*Frost-free period:* 225 to 250 days

*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Capay, clay, and similar soils:* 90 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Capay, Clay**

#### **Setting**

*Landform:* Hillslopes

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Parent material:* Alluvium

#### **Typical profile**

*Ap - 0 to 4 inches:* clay

*A - 4 to 11 inches:* clay

*Bss1 - 11 to 23 inches:* clay

*Bss2 - 23 to 30 inches:* clay

*Bss3 - 30 to 43 inches:* clay

*Bss4 - 43 to 58 inches:* clay

*Bss5 - 58 to 74 inches:* clay

*Bss6 - 74 to 90 inches:* clay

*Bss7 - 90 to 102 inches:* clay

## Custom Soil Resource Report

### Properties and qualities

*Slope:* 5 to 9 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Moderately well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Low to moderately low  
(0.00 to 0.06 in/hr)  
*Depth to water table:* About 48 to 72 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 2 percent  
*Maximum salinity:* Nonsaline (0.0 to 1.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 5.0  
*Available water capacity:* Moderate (about 9.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2s  
*Land capability classification (nonirrigated):* 4s  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XE020CA  
*Hydric soil rating:* No

### Minor Components

#### Capay, clay, occasionally flooded

*Percent of map unit:* 5 percent  
*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Clear lake, clay

*Percent of map unit:* 2 percent  
*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* Yes

#### Altamont, silty clay

*Percent of map unit:* 2 percent  
*Landform:* Hills  
*Landform position (two-dimensional):* Footslope, backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 1 percent  
*Landform:* Channels  
*Hydric soil rating:* Yes

## 210—Corval loam, 0 to 3 percent slopes

### Map Unit Setting

*National map unit symbol:* hhb4  
*Elevation:* 200 to 1,400 feet  
*Mean annual precipitation:* 14 to 22 inches  
*Mean annual air temperature:* 57 to 63 degrees F  
*Frost-free period:* 185 to 250 days  
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Corval, loam, and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Corval, Loam

#### Setting

*Landform:* Alluvial fans, flood plains  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium

#### Typical profile

*A - 0 to 8 inches:* loam  
*Bw1 - 8 to 24 inches:* clay loam  
*Bw2 - 24 to 36 inches:* clay loam  
*Bw3 - 36 to 46 inches:* clay loam  
*Bw4 - 46 to 60 inches:* silty clay loam  
*Bw5 - 60 to 70 inches:* clay loam

#### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* RareNone  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* High (about 11.1 inches)

**Interpretive groups**

*Land capability classification (irrigated): 1*  
*Land capability classification (nonirrigated): 4s*  
*Hydrologic Soil Group: C*  
*Ecological site: R017XE061CA - Loamy Fan Remnant 8-10" P.Z.*  
*Hydric soil rating: No*

**Minor Components**

**Vina, loam**

*Percent of map unit: 9 percent*  
*Landform: Flood plains*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Hydric soil rating: No*

**Arand, very gravelly sandy loam**

*Percent of map unit: 5 percent*  
*Landform: Flood plains*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Hydric soil rating: No*

**Unnamed**

*Percent of map unit: 1 percent*  
*Landform: Channels*  
*Hydric soil rating: Yes*

**215—Altamont-Sehorn complex, 15 to 30 percent slopes**

**Map Unit Setting**

*National map unit symbol: hhb8*  
*Elevation: 200 to 800 feet*  
*Mean annual precipitation: 14 to 18 inches*  
*Mean annual air temperature: 61 to 63 degrees F*  
*Frost-free period: 225 to 250 days*  
*Farmland classification: Not prime farmland*

**Map Unit Composition**

*Altamont, silty clay, and similar soils: 45 percent*  
*Sehorn, silty clay, and similar soils: 35 percent*  
*Minor components: 20 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Altamont, Silty Clay**

**Setting**

*Landform: Hills*  
*Landform position (two-dimensional): Footslope, backslope*  
*Landform position (three-dimensional): Side slope*

## Custom Soil Resource Report

*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sandstone-shale

### Typical profile

*A - 0 to 3 inches:* silty clay  
*Bw - 3 to 9 inches:* silty clay  
*Bss1 - 9 to 23 inches:* silty clay  
*Bss2 - 23 to 35 inches:* silty clay  
*BC1 - 35 to 43 inches:* very gravelly silty clay  
*BC2 - 43 to 49 inches:* silty clay  
*Cr - 49 to 60 inches:* weathered bedrock

### Properties and qualities

*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 2 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Moderate (about 7.9 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* C  
*Ecological site:* R015XE020CA  
*Hydric soil rating:* No

## Description of Sehorn, Silty Clay

### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sandstone-shale

### Typical profile

*A - 0 to 5 inches:* silty clay  
*Bw - 5 to 9 inches:* silty clay  
*Bss1 - 9 to 19 inches:* silty clay  
*Bss2 - 19 to 26 inches:* gravelly silty clay  
*BC - 26 to 35 inches:* extremely gravelly silty clay  
*R - 35 to 41 inches:* unweathered bedrock

### Properties and qualities

*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

## Custom Soil Resource Report

*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 2 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Low (about 5.3 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XE020CA  
*Hydric soil rating:* No

### **Minor Components**

#### **Contra costa, loam**

*Percent of map unit:* 7 percent  
*Landform:* Hills  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* No

#### **Ayar, clay**

*Percent of map unit:* 4 percent  
*Landform:* Hills  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### **Capay, clay**

*Percent of map unit:* 3 percent  
*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### **Balcom, silt loam**

*Percent of map unit:* 2 percent  
*Landform:* Hills  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

#### **Millsholm, loam**

*Percent of map unit:* 2 percent  
*Landform:* Hills  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

## Custom Soil Resource Report

### Unnamed

*Percent of map unit:* 1 percent  
*Landform:* Channels  
*Hydric soil rating:* Yes

### Rock outcrop

*Percent of map unit:* 1 percent  
*Landform:* Mountains, hills  
*Hydric soil rating:* No

## 216—Altamont-Sehorn complex, 9 to 15 percent slopes

### Map Unit Setting

*National map unit symbol:* hhb9  
*Elevation:* 200 to 800 feet  
*Mean annual precipitation:* 14 to 18 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Altamont, silty clay, and similar soils:* 45 percent  
*Sehorn, silty clay, and similar soils:* 35 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Altamont, Silty Clay

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Footslope, backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sandstone-shale

#### Typical profile

*A - 0 to 3 inches:* silty clay  
*Bw - 3 to 9 inches:* silty clay  
*Bss1 - 9 to 23 inches:* silty clay  
*Bss2 - 23 to 35 inches:* silty clay  
*BC1 - 35 to 43 inches:* very gravelly silty clay  
*BC2 - 43 to 49 inches:* silty clay  
*Cr - 49 to 60 inches:* weathered bedrock

#### Properties and qualities

*Slope:* 9 to 15 percent  
*Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock  
*Drainage class:* Well drained



## Custom Soil Resource Report

*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 2 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Moderate (about 7.9 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* C  
*Ecological site:* R015XE020CA  
*Hydric soil rating:* No

### Description of Sehorn, Silty Clay

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sandstone-shale

#### Typical profile

*A - 0 to 5 inches:* silty clay  
*Bw - 5 to 9 inches:* silty clay  
*Bss1 - 9 to 19 inches:* silty clay  
*Bss2 - 19 to 26 inches:* gravelly silty clay  
*BC - 26 to 35 inches:* extremely gravelly silty clay  
*R - 35 to 41 inches:* unweathered bedrock

#### Properties and qualities

*Slope:* 9 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 2 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Low (about 5.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D

## Custom Soil Resource Report

*Ecological site:* R015XE020CA

*Hydric soil rating:* No

### Minor Components

#### **Contra costa, loam**

*Percent of map unit:* 7 percent

*Landform:* Hills

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* No

#### **Ayar, clay**

*Percent of map unit:* 4 percent

*Landform:* Hills

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### **Capay, clay**

*Percent of map unit:* 3 percent

*Landform:* Basin floors

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### **Balcom, silt loam**

*Percent of map unit:* 2 percent

*Landform:* Hills

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Hydric soil rating:* No

#### **Millsholm, loam**

*Percent of map unit:* 2 percent

*Landform:* Hills

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### **Rock outcrop**

*Percent of map unit:* 1 percent

*Landform:* Mountains, hills

*Hydric soil rating:* No

#### **Unnamed**

*Percent of map unit:* 1 percent

*Landform:* Channels

*Hydric soil rating:* Yes

## 218—Sehorn-Altamont complex, 30 to 50 percent slopes

### Map Unit Setting

*National map unit symbol:* 2vf9f  
*Elevation:* 200 to 800 feet  
*Mean annual precipitation:* 14 to 18 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Sehorn, silty clay, and similar soils:* 45 percent  
*Altamont, silty clay, and similar soils:* 35 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Sehorn, Silty Clay

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sandstone-shale

#### Typical profile

*A - 0 to 5 inches:* silty clay  
*Bw - 5 to 9 inches:* silty clay  
*Bss1 - 9 to 19 inches:* silty clay  
*Bss2 - 19 to 26 inches:* gravelly silty clay  
*BC - 26 to 35 inches:* extremely gravelly silty clay  
*R - 35 to 41 inches:* unweathered bedrock

#### Properties and qualities

*Slope:* 30 to 50 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 2 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0

## Custom Soil Resource Report

*Available water capacity:* Low (about 5.3 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6e

*Hydrologic Soil Group:* D

*Ecological site:* R015XF002CA - Clayey Foothills

*Hydric soil rating:* No

### **Description of Altamont, Silty Clay**

#### **Setting**

*Landform:* Hills

*Landform position (two-dimensional):* Footslope, backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Parent material:* Residuum weathered from sandstone-shale

#### **Typical profile**

*A - 0 to 3 inches:* silty clay

*Bw - 3 to 9 inches:* silty clay

*Bss1 - 9 to 23 inches:* silty clay

*Bss2 - 23 to 35 inches:* silty clay

*BC1 - 35 to 43 inches:* very gravelly silty clay

*BC2 - 43 to 49 inches:* silty clay

*Cr - 49 to 60 inches:* weathered bedrock

#### **Properties and qualities**

*Slope:* 30 to 50 percent

*Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock

*Drainage class:* Well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 2 percent

*Gypsum, maximum content:* 1 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water capacity:* Moderate (about 7.9 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6e

*Hydrologic Soil Group:* C

*Ecological site:* R015XF002CA - Clayey Foothills

*Hydric soil rating:* No

### **Minor Components**

#### **Contra costa, loam**

*Percent of map unit:* 5 percent

*Landform:* Hills

*Down-slope shape:* Concave

Custom Soil Resource Report

*Across-slope shape:* Concave  
*Hydric soil rating:* No

**Millsholm, loam**

*Percent of map unit:* 5 percent  
*Landform:* Hills  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Balcom, silt loam**

*Percent of map unit:* 4 percent  
*Landform:* Hills  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Rock outcrop**

*Percent of map unit:* 3 percent  
*Landform:* Mountains, hills  
*Hydric soil rating:* No

**Unnamed**

*Percent of map unit:* 1 percent  
*Landform:* Channels  
*Hydric soil rating:* Yes

**Ayar, clay**

*Percent of map unit:* 1 percent  
*Landform:* Hills  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* No

**Capay, clay**

*Percent of map unit:* 1 percent  
*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**220—Altamont silty clay, 5 to 9 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hhbd  
*Elevation:* 200 to 800 feet  
*Mean annual precipitation:* 14 to 18 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Altamont, silty clay, and similar soils: 85 percent*

*Minor components: 15 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Altamont, Silty Clay**

**Setting**

*Landform: Hills*

*Landform position (two-dimensional): Foothlope, backslope*

*Landform position (three-dimensional): Side slope*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Parent material: Residuum weathered from sandstone-shale*

**Typical profile**

*A - 0 to 3 inches: silty clay*

*Bw - 3 to 9 inches: silty clay*

*Bss1 - 9 to 23 inches: silty clay*

*Bss2 - 23 to 35 inches: silty clay*

*BC1 - 35 to 43 inches: very gravelly silty clay*

*BC2 - 43 to 49 inches: silty clay*

*Cr - 49 to 60 inches: weathered bedrock*

**Properties and qualities**

*Slope: 5 to 9 percent*

*Depth to restrictive feature: 40 to 60 inches to paralithic bedrock*

*Drainage class: Well drained*

*Runoff class: Medium*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Calcium carbonate, maximum content: 2 percent*

*Gypsum, maximum content: 1 percent*

*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

*Sodium adsorption ratio, maximum: 2.0*

*Available water capacity: Moderate (about 7.9 inches)*

**Interpretive groups**

*Land capability classification (irrigated): 2e*

*Land capability classification (nonirrigated): 4e*

*Hydrologic Soil Group: C*

*Ecological site: R015XE001CA - Clayey Hills 10-14" p.z.*

*Hydric soil rating: No*

**Minor Components**

**Ayar, clay**

*Percent of map unit: 5 percent*

*Landform: Hills*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Hydric soil rating: No*

**Sehorn, silty clay**

*Percent of map unit:* 5 percent  
*Landform:* Hills  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**Capay, clay**

*Percent of map unit:* 3 percent  
*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**Millsholm, loam**

*Percent of map unit:* 1 percent  
*Landform:* Hills  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**Unnamed**

*Percent of map unit:* 1 percent  
*Landform:* Channels  
*Hydric soil rating:* Yes

**221—Altamont silty clay, 9 to 15 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hhb  
*Elevation:* 200 to 800 feet  
*Mean annual precipitation:* 14 to 18 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Altamont, silty clay, and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Altamont, Silty Clay**

**Setting**

*Landform:* Hills  
*Landform position (two-dimensional):* Footslope, backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex

## Custom Soil Resource Report

*Parent material:* Residuum weathered from sandstone-shale

### Typical profile

*A - 0 to 3 inches:* silty clay  
*Bw - 3 to 9 inches:* silty clay  
*Bss1 - 9 to 23 inches:* silty clay  
*Bss2 - 23 to 35 inches:* silty clay  
*BC1 - 35 to 43 inches:* very gravelly silty clay  
*BC2 - 43 to 49 inches:* silty clay  
*Cr - 49 to 60 inches:* weathered bedrock

### Properties and qualities

*Slope:* 9 to 15 percent  
*Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 2 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Moderate (about 7.9 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* C  
*Ecological site:* R015XE001CA - Clayey Hills 10-14" p.z.  
*Hydric soil rating:* No

### Minor Components

#### Ayar, clay

*Percent of map unit:* 5 percent  
*Landform:* Hills  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Sehorn, silty clay

*Percent of map unit:* 5 percent  
*Landform:* Hills  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Capay, clay

*Percent of map unit:* 4 percent  
*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No



**Unnamed**

*Percent of map unit:* 1 percent  
*Landform:* Channels  
*Hydric soil rating:* Yes

**230—Corning clay loam, 1 to 5 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hhbh  
*Elevation:* 150 to 1,300 feet  
*Mean annual precipitation:* 14 to 22 inches  
*Mean annual air temperature:* 57 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Corning, clay loam, and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Corning, Clay Loam**

**Setting**

*Landform:* Terraces  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium

**Typical profile**

*A1 - 0 to 4 inches:* clay loam  
*A2 - 4 to 9 inches:* clay loam  
*Bt1 - 9 to 20 inches:* clay  
*Bt2 - 20 to 31 inches:* gravelly clay  
*2BC1 - 31 to 39 inches:* gravelly clay loam  
*2BC2 - 39 to 52 inches:* very cobbly sandy clay loam  
*3BC3 - 52 to 60 inches:* very gravelly sandy loam

**Properties and qualities**

*Slope:* 1 to 5 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent

## Custom Soil Resource Report

*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 1.0  
*Available water capacity:* Moderate (about 7.5 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* C  
*Ecological site:* R015XE077CA - Shallow Loamy Hills 10-15" P.Z. Gravelly  
*Hydric soil rating:* No

### Minor Components

#### Arbuckle, sandy loam

*Percent of map unit:* 6 percent  
*Landform:* Terraces  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Ayar, clay

*Percent of map unit:* 3 percent  
*Landform:* Hills  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 1 percent  
*Landform:* Channels  
*Hydric soil rating:* Yes

## 241—Contra Costa-Altamont association, 30 to 50 percent slopes

### Map Unit Setting

*National map unit symbol:* 2vf93  
*Elevation:* 600 to 950 feet  
*Mean annual precipitation:* 14 to 18 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Contra costa, loam, and similar soils:* 55 percent  
*Altamont, silty clay, and similar soils:* 35 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Contra Costa, Loam

### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sandstone-shale

### Typical profile

*A - 0 to 3 inches:* loam  
*Bt1 - 3 to 8 inches:* clay loam  
*Bt2 - 8 to 16 inches:* clay loam  
*Bt3 - 16 to 28 inches:* clay  
*Bt4 - 28 to 35 inches:* very gravelly clay loam  
*R - 35 to 45 inches:* unweathered bedrock

### Properties and qualities

*Slope:* 30 to 50 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Low (about 5.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XF005CA - Steep Loamy Foothills  
*Hydric soil rating:* No

## Description of Altamont, Silty Clay

### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Foothlope, backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sandstone-shale

### Typical profile

*A - 0 to 3 inches:* silty clay  
*Bw - 3 to 9 inches:* silty clay  
*Bss1 - 9 to 23 inches:* silty clay  
*Bss2 - 23 to 35 inches:* silty clay

## Custom Soil Resource Report

*BC1 - 35 to 43 inches: very gravelly silty clay*

*BC2 - 43 to 49 inches: silty clay*

*Cr - 49 to 60 inches: weathered bedrock*

### **Properties and qualities**

*Slope: 30 to 50 percent*

*Depth to restrictive feature: 40 to 60 inches to paralithic bedrock*

*Drainage class: Well drained*

*Runoff class: Medium*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Calcium carbonate, maximum content: 2 percent*

*Gypsum, maximum content: 1 percent*

*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

*Sodium adsorption ratio, maximum: 2.0*

*Available water capacity: Moderate (about 7.9 inches)*

### **Interpretive groups**

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 6e*

*Hydrologic Soil Group: C*

*Ecological site: R015XF002CA - Clayey Foothills*

*Hydric soil rating: No*

### **Minor Components**

#### **Millsholm, loam**

*Percent of map unit: 4 percent*

*Landform: Hills*

*Landform position (three-dimensional): Side slope*

*Down-slope shape: Concave*

*Across-slope shape: Convex*

*Hydric soil rating: No*

#### **Rock outcrop**

*Percent of map unit: 3 percent*

*Landform: Mountains, hills*

*Hydric soil rating: No*

#### **Capay, clay**

*Percent of map unit: 2 percent*

*Landform: Basin floors*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Hydric soil rating: No*

#### **Unnamed**

*Percent of map unit: 1 percent*

*Landform: Channels*

*Hydric soil rating: Yes*

## 255—Millsholm-Rock outcrop complex, 9 to 30 percent slopes

### Map Unit Setting

*National map unit symbol:* hhbq  
*Elevation:* 200 to 400 feet  
*Mean annual precipitation:* 14 to 18 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Millsholm, loam, and similar soils:* 55 percent  
*Rock outcrop:* 35 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Millsholm, Loam

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sandstone-shale

#### Typical profile

*A - 0 to 2 inches:* loam  
*Bw1 - 2 to 8 inches:* loam  
*Bw2 - 8 to 14 inches:* gravelly sandy clay loam  
*R - 14 to 24 inches:* unweathered bedrock

#### Properties and qualities

*Slope:* 9 to 30 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Very low (about 2.1 inches)

## Custom Soil Resource Report

### Interpretive groups

*Land capability classification (irrigated):* 6e  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XE083CA - Shallow Loamy Hills  
*Hydric soil rating:* No

### Description of Rock Outcrop

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Sandstone and shale

#### Typical profile

*R - 0 to 10 inches:* unweathered bedrock

#### Properties and qualities

*Slope:* 9 to 30 percent  
*Depth to restrictive feature:* 0 inches to lithic bedrock  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 8  
*Hydric soil rating:* No

### Minor Components

#### Contra costa, loam

*Percent of map unit:* 5 percent  
*Landform:* Hills  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* No

#### Sehorn, silty clay

*Percent of map unit:* 2 percent  
*Landform:* Hills  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Capay, clay

*Percent of map unit:* 2 percent  
*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 1 percent  
*Landform:* Channels

*Hydric soil rating:* Yes

## **261—Millsholm-Altamont complex, 15 to 30 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hhbt  
*Elevation:* 400 to 600 feet  
*Mean annual precipitation:* 14 to 18 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Millsholm, loam, and similar soils:* 60 percent  
*Altamont, silty clay, and similar soils:* 25 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Millsholm, Loam**

#### **Setting**

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sandstone-shale

#### **Typical profile**

*A - 0 to 2 inches:* loam  
*Bw1 - 2 to 8 inches:* loam  
*Bw2 - 8 to 14 inches:* gravelly sandy clay loam  
*R - 14 to 24 inches:* unweathered bedrock

#### **Properties and qualities**

*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Very low (about 2.1 inches)

## Custom Soil Resource Report

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XE083CA - Shallow Loamy Hills  
*Hydric soil rating:* No

### Description of Altamont, Silty Clay

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Footslope, backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sandstone-shale

#### Typical profile

*A - 0 to 3 inches:* silty clay  
*Bw - 3 to 9 inches:* silty clay  
*Bss1 - 9 to 23 inches:* silty clay  
*Bss2 - 23 to 35 inches:* silty clay  
*BC1 - 35 to 43 inches:* very gravelly silty clay  
*BC2 - 43 to 49 inches:* silty clay  
*Cr - 49 to 60 inches:* weathered bedrock

#### Properties and qualities

*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 2 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Moderate (about 7.9 inches)

### Interpretive groups

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* C  
*Ecological site:* R015XE020CA  
*Hydric soil rating:* No

### Minor Components

#### Contra costa, loam

*Percent of map unit:* 8 percent  
*Landform:* Hills  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave



## Custom Soil Resource Report

*Hydric soil rating:* No

### **Sehorn, silty clay**

*Percent of map unit:* 4 percent

*Landform:* Hills

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

### **Capay, clay**

*Percent of map unit:* 2 percent

*Landform:* Basin floors

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

### **Unnamed**

*Percent of map unit:* 1 percent

*Landform:* Channels

*Hydric soil rating:* Yes

## **300—Contra Costa-Millsholm complex, 50 to 75 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hhc0

*Elevation:* 1,300 to 2,450 feet

*Mean annual precipitation:* 20 to 26 inches

*Mean annual air temperature:* 57 to 63 degrees F

*Frost-free period:* 185 to 210 days

*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Contra costa, loam, and similar soils:* 50 percent

*Millsholm, loam, and similar soils:* 40 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Contra Costa, Loam**

#### **Setting**

*Landform:* Hills

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Parent material:* Residuum weathered from sandstone-shale

#### **Typical profile**

*A - 0 to 3 inches:* loam

*Bt1 - 3 to 8 inches:* clay loam

## Custom Soil Resource Report

*Bt2 - 8 to 16 inches: clay loam*  
*Bt3 - 16 to 28 inches: clay*  
*Bt4 - 28 to 35 inches: very gravelly clay loam*  
*R - 35 to 45 inches: unweathered bedrock*

### Properties and qualities

*Slope: 50 to 75 percent*  
*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: High*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 1 percent*  
*Gypsum, maximum content: 1 percent*  
*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*  
*Sodium adsorption ratio, maximum: 2.0*  
*Available water capacity: Low (about 5.3 inches)*

### Interpretive groups

*Land capability classification (irrigated): None specified*  
*Land capability classification (nonirrigated): 7e*  
*Hydrologic Soil Group: D*  
*Ecological site: R015XE030CA - STEEP LOAMY*  
*Hydric soil rating: No*

## Description of Millsholm, Loam

### Setting

*Landform: Hills*  
*Landform position (two-dimensional): Backslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Concave*  
*Across-slope shape: Convex*  
*Parent material: Residuum weathered from sandstone-shale*

### Typical profile

*A - 0 to 2 inches: loam*  
*Bw1 - 2 to 8 inches: loam*  
*Bw2 - 8 to 14 inches: gravelly sandy clay loam*  
*R - 14 to 24 inches: unweathered bedrock*

### Properties and qualities

*Slope: 50 to 75 percent*  
*Depth to restrictive feature: 10 to 20 inches to lithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: High*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 1 percent*  
*Gypsum, maximum content: 1 percent*  
*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

## Custom Soil Resource Report

*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Very low (about 2.1 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XE030CA - STEEP LOAMY  
*Hydric soil rating:* No

### **Minor Components**

#### **Rock outcrop**

*Percent of map unit:* 8 percent  
*Landform:* Mountains, hills  
*Hydric soil rating:* No

#### **Unnamed**

*Percent of map unit:* 2 percent  
*Landform:* Channels  
*Hydric soil rating:* Yes

## **305—Contra Costa loam, 50 to 75 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 2vf94  
*Elevation:* 1,300 to 2,450 feet  
*Mean annual precipitation:* 20 to 26 inches  
*Mean annual air temperature:* 57 to 63 degrees F  
*Frost-free period:* 185 to 210 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Contra costa, loam, and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Contra Costa, Loam**

#### **Setting**

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Residuum weathered from sandstone-shale

#### **Typical profile**

*A - 0 to 3 inches:* loam  
*Bt1 - 3 to 8 inches:* clay loam

## Custom Soil Resource Report

*Bt2 - 8 to 16 inches: clay loam*  
*Bt3 - 16 to 28 inches: clay*  
*Bt4 - 28 to 35 inches: very gravelly clay loam*  
*R - 35 to 45 inches: unweathered bedrock*

### Properties and qualities

*Slope: 50 to 75 percent*  
*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: High*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 1 percent*  
*Gypsum, maximum content: 1 percent*  
*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*  
*Sodium adsorption ratio, maximum: 2.0*  
*Available water capacity: Low (about 5.3 inches)*

### Interpretive groups

*Land capability classification (irrigated): None specified*  
*Land capability classification (nonirrigated): 7e*  
*Hydrologic Soil Group: D*  
*Ecological site: R015XF005CA - Steep Loamy Foothills*  
*Hydric soil rating: No*

### Minor Components

#### Millsholm, loam

*Percent of map unit: 10 percent*  
*Landform: Hills*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Concave*  
*Across-slope shape: Convex*  
*Hydric soil rating: No*

#### Rock outcrop

*Percent of map unit: 4 percent*  
*Landform: Mountains, hills*  
*Hydric soil rating: No*

#### Unnamed

*Percent of map unit: 1 percent*  
*Landform: Channels*  
*Hydric soil rating: Yes*

### 311—Contra Costa loam, 9 to 15 percent slopes

#### Map Unit Setting

*National map unit symbol:* hhc2  
*Elevation:* 1,200 to 1,280 feet  
*Mean annual precipitation:* 19 to 21 inches  
*Mean annual air temperature:* 57 to 61 degrees F  
*Frost-free period:* 185 to 210 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Contra costa, loam, and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Contra Costa, Loam

##### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sandstone-shale

##### Typical profile

*A - 0 to 3 inches:* loam  
*Bt1 - 3 to 8 inches:* clay loam  
*Bt2 - 8 to 16 inches:* clay loam  
*Bt3 - 16 to 28 inches:* clay  
*Bt4 - 28 to 35 inches:* very gravelly clay loam  
*R - 35 to 45 inches:* unweathered bedrock

##### Properties and qualities

*Slope:* 9 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Low (about 5.3 inches)

**Interpretive groups**

*Land capability classification (irrigated): 3e*  
*Land capability classification (nonirrigated): 4e*  
*Hydrologic Soil Group: D*  
*Ecological site: R015XE020CA*  
*Hydric soil rating: No*

**Minor Components**

**Altamont, silty clay**

*Percent of map unit: 6 percent*  
*Landform: Hills*  
*Landform position (two-dimensional): Footslope, backslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Ecological site: R015XE020CA*  
*Hydric soil rating: No*

**Millsholm, loam**

*Percent of map unit: 6 percent*  
*Landform: Hills*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Concave*  
*Across-slope shape: Convex*  
*Hydric soil rating: No*

**Rock outcrop**

*Percent of map unit: 2 percent*  
*Landform: Mountains, hills*  
*Hydric soil rating: No*

**Unnamed**

*Percent of map unit: 1 percent*  
*Landform: Channels*  
*Hydric soil rating: Yes*

**315—Mallard clay loam, 2 to 5 percent slopes**

**Map Unit Setting**

*National map unit symbol: hhc4*  
*Elevation: 1,240 to 1,300 feet*  
*Mean annual precipitation: 18 to 22 inches*  
*Mean annual air temperature: 57 to 61 degrees F*  
*Frost-free period: 185 to 210 days*  
*Farmland classification: Prime farmland if irrigated*

**Map Unit Composition**

*Mallard, clay loam, and similar soils: 90 percent*  
*Minor components: 10 percent*

## Custom Soil Resource Report

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Mallard, Clay Loam**

#### **Setting**

*Landform: Fans*  
*Landform position (two-dimensional): Toeslope*  
*Landform position (three-dimensional): Tread*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Parent material: Alluvium*

#### **Typical profile**

*Ap - 0 to 3 inches: clay loam*  
*Bt1 - 3 to 8 inches: clay loam*  
*Bt2 - 8 to 15 inches: clay*  
*Bt3 - 15 to 28 inches: clay*  
*C1 - 28 to 44 inches: clay loam*  
*C2 - 44 to 60 inches: clay loam*

#### **Properties and qualities**

*Slope: 2 to 5 percent*  
*Depth to restrictive feature: More than 80 inches*  
*Drainage class: Moderately well drained*  
*Runoff class: Low*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 1 percent*  
*Gypsum, maximum content: 1 percent*  
*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*  
*Sodium adsorption ratio, maximum: 2.0*  
*Available water capacity: High (about 10.6 inches)*

#### **Interpretive groups**

*Land capability classification (irrigated): 2e*  
*Land capability classification (nonirrigated): 4e*  
*Hydrologic Soil Group: C*  
*Ecological site: R015XE084CA - FINE LOAMY BOTTOM*  
*Hydric soil rating: No*

### **Minor Components**

#### **Hillgate, loam**

*Percent of map unit: 4 percent*  
*Landform: Terraces*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Hydric soil rating: No*

#### **Saltcanyon, loam**

*Percent of map unit: 3 percent*  
*Landform: Alluvial fans*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*

*Hydric soil rating:* No

**Arand, very gravelly sandy loam**

*Percent of map unit:* 2 percent

*Landform:* Flood plains

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

**Unnamed**

*Percent of map unit:* 1 percent

*Landform:* Channels

*Hydric soil rating:* Yes

**316—Hillgate loam, 5 to 9 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hhc5

*Elevation:* 400 to 1,500 feet

*Mean annual precipitation:* 16 to 22 inches

*Mean annual air temperature:* 57 to 61 degrees F

*Frost-free period:* 185 to 210 days

*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Hillgate, loam, and similar soils:* 90 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Hillgate, Loam**

**Setting**

*Landform:* Terraces

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Parent material:* Alluvium

**Typical profile**

*A1 - 0 to 3 inches:* loam

*A2 - 3 to 11 inches:* loam

*A3 - 11 to 19 inches:* loam

*2Bt1 - 19 to 37 inches:* clay

*2Bt2 - 37 to 52 inches:* clay loam

*2Bt3 - 52 to 62 inches:* clay loam

*2Bt4 - 62 to 72 inches:* clay loam

**Properties and qualities**

*Slope:* 5 to 9 percent

*Depth to restrictive feature:* 19 inches to abrupt textural change



## Custom Soil Resource Report

*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 2 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 4.0  
*Available water capacity:* Low (about 3.0 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* C  
*Ecological site:* R015XE026CA - Loamy Slopes 9-12" p.z.  
*Hydric soil rating:* No

### **Minor Components**

#### **Capay, clay**

*Percent of map unit:* 4 percent  
*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### **Corval, loam**

*Percent of map unit:* 3 percent  
*Landform:* Flood plains, fans  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### **Contra costa, loam**

*Percent of map unit:* 1 percent  
*Landform:* Hills  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* No

#### **Unnamed**

*Percent of map unit:* 1 percent  
*Landform:* Channels  
*Hydric soil rating:* Yes

#### **Millsholm, loam**

*Percent of map unit:* 1 percent  
*Landform:* Hills  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

## 320—Millsholm loam, 0 to 30 percent slopes, MLRA 15

### Map Unit Setting

*National map unit symbol:* 2vfbc  
*Elevation:* 630 to 2,640 feet  
*Mean annual precipitation:* 22 to 26 inches  
*Mean annual air temperature:* 57 to 63 degrees F  
*Frost-free period:* 185 to 210 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Millsholm and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Millsholm

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Summit  
*Landform position (three-dimensional):* Interfluve  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sandstone-shale

#### Typical profile

*A - 0 to 2 inches:* loam  
*Bw1 - 2 to 8 inches:* loam  
*Bw2 - 8 to 14 inches:* gravelly sandy clay loam  
*R - 14 to 24 inches:* bedrock

#### Properties and qualities

*Slope:* 0 to 30 percent  
*Depth to restrictive feature:* 5 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.3 to 2.5 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Very low (about 2.1 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e

## Custom Soil Resource Report

*Hydrologic Soil Group:* D

*Ecological site:* R015XF004CA - Shallow Loamy Foothills

*Hydric soil rating:* No

### Minor Components

#### Contra costa

*Percent of map unit:* 10 percent

*Landform:* Hills

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* No

#### Rock outcrop

*Percent of map unit:* 4 percent

*Landform:* Mountains, hills

*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 1 percent

*Landform:* Channels

*Hydric soil rating:* Yes

## 329—Sehorn-Millsholm-Altamont complex, 15 to 30 percent slopes

### Map Unit Setting

*National map unit symbol:* hhc8

*Elevation:* 360 to 440 feet

*Mean annual precipitation:* 14 to 18 inches

*Mean annual air temperature:* 61 to 63 degrees F

*Frost-free period:* 225 to 250 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Sehorn, silty clay, and similar soils:* 40 percent

*Millsholm, loam, and similar soils:* 30 percent

*Altamont, silty clay, and similar soils:* 15 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Sehorn, Silty Clay

#### Setting

*Landform:* Hills

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from sandstone-shale

## Custom Soil Resource Report

### Typical profile

*A - 0 to 5 inches: silty clay*  
*Bw - 5 to 9 inches: silty clay*  
*Bss1 - 9 to 19 inches: silty clay*  
*Bss2 - 19 to 26 inches: gravelly silty clay*  
*BC - 26 to 35 inches: extremely gravelly silty clay*  
*R - 35 to 41 inches: unweathered bedrock*

### Properties and qualities

*Slope: 15 to 30 percent*  
*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: Medium*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 2 percent*  
*Gypsum, maximum content: 1 percent*  
*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*  
*Sodium adsorption ratio, maximum: 2.0*  
*Available water capacity: Low (about 5.3 inches)*

### Interpretive groups

*Land capability classification (irrigated): None specified*  
*Land capability classification (nonirrigated): 4e*  
*Hydrologic Soil Group: D*  
*Ecological site: R015XE020CA*  
*Hydric soil rating: No*

## Description of Millsholm, Loam

### Setting

*Landform: Hills*  
*Landform position (two-dimensional): Backslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Concave*  
*Across-slope shape: Concave*  
*Parent material: Residuum weathered from sandstone-shale*

### Typical profile

*A - 0 to 2 inches: loam*  
*Bw1 - 2 to 8 inches: loam*  
*Bw2 - 8 to 14 inches: gravelly sandy clay loam*  
*R - 14 to 24 inches: unweathered bedrock*

### Properties and qualities

*Slope: 15 to 30 percent*  
*Depth to restrictive feature: 10 to 20 inches to lithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: Medium*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*

## Custom Soil Resource Report

*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Very low (about 2.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XE083CA - Shallow Loamy Hills  
*Hydric soil rating:* No

### Description of Altamont, Silty Clay

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope, footslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sandstone-shale

#### Typical profile

*A - 0 to 3 inches:* silty clay  
*Bw - 3 to 9 inches:* silty clay  
*Bss1 - 9 to 23 inches:* silty clay  
*Bss2 - 23 to 35 inches:* silty clay  
*BC1 - 35 to 43 inches:* very gravelly silty clay  
*BC2 - 43 to 49 inches:* silty clay  
*Cr - 49 to 60 inches:* weathered bedrock

#### Properties and qualities

*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 2 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Moderate (about 7.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* C  
*Ecological site:* R015XE020CA  
*Hydric soil rating:* No

### Minor Components

#### **Contra costa, loam**

*Percent of map unit: 8 percent*

*Landform: Hills*

*Down-slope shape: Concave*

*Across-slope shape: Concave*

*Hydric soil rating: No*

#### **Rock outcrop**

*Percent of map unit: 4 percent*

*Landform: Mountains, hills*

*Hydric soil rating: No*

#### **Capay, clay**

*Percent of map unit: 2 percent*

*Landform: Basin floors*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Hydric soil rating: No*

#### **Unnamed**

*Percent of map unit: 1 percent*

*Landform: Channels*

*Hydric soil rating: Yes*

## **330—Millsholm-Contra Costa complex, 15 to 30 percent slopes**

### **Map Unit Setting**

*National map unit symbol: 2vfbf*

*Elevation: 1,200 to 1,400 feet*

*Mean annual precipitation: 19 to 21 inches*

*Mean annual air temperature: 57 to 61 degrees F*

*Frost-free period: 185 to 210 days*

*Farmland classification: Not prime farmland*

### **Map Unit Composition**

*Millsholm, loam, and similar soils: 60 percent*

*Contra costa, loam, and similar soils: 25 percent*

*Minor components: 15 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Millsholm, Loam**

#### **Setting**

*Landform: Hills*

*Landform position (two-dimensional): Backslope*

*Landform position (three-dimensional): Side slope*

## Custom Soil Resource Report

*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sandstone-shale

### Typical profile

*A - 0 to 2 inches:* loam  
*Bw1 - 2 to 8 inches:* loam  
*Bw2 - 8 to 14 inches:* gravelly sandy clay loam  
*R - 14 to 24 inches:* unweathered bedrock

### Properties and qualities

*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Very low (about 2.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XF004CA - Shallow Loamy Foothills  
*Hydric soil rating:* No

## Description of Contra Costa, Loam

### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Residuum weathered from sandstone-shale

### Typical profile

*A - 0 to 3 inches:* loam  
*Bt1 - 3 to 8 inches:* clay loam  
*Bt2 - 8 to 16 inches:* clay loam  
*Bt3 - 16 to 28 inches:* clay  
*Bt4 - 28 to 35 inches:* very gravelly clay loam  
*R - 35 to 45 inches:* unweathered bedrock

### Properties and qualities

*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium

## Custom Soil Resource Report

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 1 percent

*Gypsum, maximum content:* 1 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water capacity:* Low (about 5.3 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* D

*Ecological site:* R015XF005CA - Steep Loamy Foothills

*Hydric soil rating:* No

### **Minor Components**

#### **Sehorn, silty clay**

*Percent of map unit:* 5 percent

*Landform:* Hills

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Hydric soil rating:* No

#### **Saltcanyon, loam**

*Percent of map unit:* 4 percent

*Landform:* Alluvial fans

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### **Altamont, silty clay**

*Percent of map unit:* 3 percent

*Landform:* Hills

*Landform position (two-dimensional):* Footslope, backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### **Capay, clay**

*Percent of map unit:* 2 percent

*Landform:* Basin floors

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### **Unnamed**

*Percent of map unit:* 1 percent

*Landform:* Channels

*Hydric soil rating:* Yes



### 331—Sehorn-Millsholm-Rock outcrop complex, 30 to 50 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2vfbg  
*Elevation:* 360 to 480 feet  
*Mean annual precipitation:* 14 to 18 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Sehorn, silty clay, and similar soils:* 35 percent  
*Millsholm, loam, and similar soils:* 30 percent  
*Rock outcrop:* 20 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Sehorn, Silty Clay

##### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sandstone-shale

##### Typical profile

*A - 0 to 5 inches:* silty clay  
*Bw - 5 to 9 inches:* silty clay  
*Bss1 - 9 to 19 inches:* silty clay  
*Bss2 - 19 to 26 inches:* gravelly silty clay  
*BC - 26 to 35 inches:* extremely gravelly silty clay  
*R - 35 to 41 inches:* unweathered bedrock

##### Properties and qualities

*Slope:* 30 to 50 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 2 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

## Custom Soil Resource Report

*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Low (about 5.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XF002CA - Clayey Foothills  
*Hydric soil rating:* No

### Description of Millsholm, Loam

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Residuum weathered from sandstone-shale

#### Typical profile

*A - 0 to 2 inches:* loam  
*Bw1 - 2 to 8 inches:* loam  
*Bw2 - 8 to 14 inches:* gravelly sandy clay loam  
*R - 14 to 24 inches:* unweathered bedrock

#### Properties and qualities

*Slope:* 30 to 50 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Very low (about 2.1 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XF004CA - Shallow Loamy Foothills  
*Hydric soil rating:* No

### Description of Rock Outcrop

#### Setting

*Landform:* Hills  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Sandstone and shale

**Typical profile**

*R - 0 to 10 inches:* unweathered bedrock

**Properties and qualities**

*Slope:* 30 to 50 percent

*Depth to restrictive feature:* 0 inches to lithic bedrock

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydric soil rating:* No

**Minor Components**

**Altamont, silty clay**

*Percent of map unit:* 6 percent

*Landform:* Hills

*Landform position (two-dimensional):* Footslope, backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

**Contra costa, loam**

*Percent of map unit:* 5 percent

*Landform:* Hills

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* No

**Saltcanyon, loam**

*Percent of map unit:* 2 percent

*Landform:* Alluvial fans

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

**Capay, clay**

*Percent of map unit:* 1 percent

*Landform:* Basin floors

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

**Unnamed**

*Percent of map unit:* 1 percent

*Landform:* Channels

*Hydric soil rating:* Yes

### **332—Millsholm-Rock outcrop association, 30 to 75 percent slopes**

#### **Map Unit Setting**

*National map unit symbol:* hccc  
*Elevation:* 400 to 600 feet  
*Mean annual precipitation:* 14 to 18 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Not prime farmland

#### **Map Unit Composition**

*Millsholm, loam, and similar soils:* 50 percent  
*Rock outcrop:* 40 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### **Description of Millsholm, Loam**

##### **Setting**

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sandstone-shale

##### **Typical profile**

*A - 0 to 2 inches:* loam  
*Bw1 - 2 to 8 inches:* loam  
*Bw2 - 8 to 14 inches:* gravelly sandy clay loam  
*R - 14 to 24 inches:* unweathered bedrock

##### **Properties and qualities**

*Slope:* 30 to 75 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Very low (about 2.1 inches)

## Custom Soil Resource Report

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* D

*Ecological site:* R015XE083CA - Shallow Loamy Hills

*Hydric soil rating:* No

### Description of Rock Outcrop

#### Setting

*Landform:* Hills

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Sandstone and shale

#### Typical profile

*R - 0 to 10 inches:* unweathered bedrock

#### Properties and qualities

*Slope:* 30 to 75 percent

*Depth to restrictive feature:* 0 inches to lithic bedrock

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydric soil rating:* No

### Minor Components

#### Contra costa, loam

*Percent of map unit:* 8 percent

*Landform:* Hills

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 1 percent

*Landform:* Channels

*Hydric soil rating:* Yes

#### Saltcanyon, loam

*Percent of map unit:* 1 percent

*Landform:* Alluvial fans

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

### **334—Millsholm-Contra Costa association, 30 to 75 percent slopes**

#### **Map Unit Setting**

*National map unit symbol:* 2vf95  
*Elevation:* 280 to 1,750 feet  
*Mean annual precipitation:* 14 to 24 inches  
*Mean annual air temperature:* 57 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Not prime farmland

#### **Map Unit Composition**

*Millsholm, loam, and similar soils:* 70 percent  
*Contra costa, loam, and similar soils:* 15 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### **Description of Millsholm, Loam**

##### **Setting**

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Residuum weathered from sandstone-shale

##### **Typical profile**

*A - 0 to 2 inches:* loam  
*Bw1 - 2 to 8 inches:* loam  
*Bw2 - 8 to 14 inches:* gravelly sandy clay loam  
*R - 14 to 24 inches:* unweathered bedrock

##### **Properties and qualities**

*Slope:* 30 to 75 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Very low (about 2.1 inches)

## Custom Soil Resource Report

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XF004CA - Shallow Loamy Foothills  
*Hydric soil rating:* No

### Description of Contra Costa, Loam

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Residuum weathered from sandstone-shale

#### Typical profile

*A - 0 to 3 inches:* loam  
*Bt1 - 3 to 8 inches:* clay loam  
*Bt2 - 8 to 16 inches:* clay loam  
*Bt3 - 16 to 28 inches:* clay  
*Bt4 - 28 to 35 inches:* very gravelly clay loam  
*R - 35 to 45 inches:* unweathered bedrock

#### Properties and qualities

*Slope:* 30 to 75 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water capacity:* Low (about 5.3 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XF005CA - Steep Loamy Foothills  
*Hydric soil rating:* No

### Minor Components

#### Sehorn, silty clay

*Percent of map unit:* 10 percent  
*Landform:* Hills  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

## Custom Soil Resource Report

### **Rock outcrop**

*Percent of map unit: 4 percent*

*Landform: Mountains, hills*

*Hydric soil rating: No*

### **Unnamed**

*Percent of map unit: 1 percent*

*Landform: Channels*

*Hydric soil rating: Yes*

## **652—Water**

### **Map Unit Composition**

*Water: 100 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*



## Glenn County, California

### AaA—Altamont clay, 0 to 3 percent slopes

#### Map Unit Setting

*National map unit symbol:* hd55  
*Elevation:* 50 to 1,500 feet  
*Mean annual precipitation:* 12 to 25 inches  
*Mean annual air temperature:* 57 to 61 degrees F  
*Frost-free period:* 200 to 360 days  
*Farmland classification:* Prime farmland if irrigated

#### Map Unit Composition

*Altamont and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Altamont

##### Setting

*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sedimentary rock

##### Typical profile

*H1 - 0 to 18 inches:* clay  
*H2 - 18 to 43 inches:* clay  
*H3 - 43 to 60 inches:* bedrock

##### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Moderate (about 6.4 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 2s  
*Land capability classification (nonirrigated):* 3s  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

#### Minor Components

##### Unnamed

*Percent of map unit:* 13 percent  
*Hydric soil rating:* No

**Unnamed**

*Percent of map unit: 2 percent*  
*Landform: Fan remnants*  
*Hydric soil rating: Yes*

**AaC—Altamont clay, 3 to 15 percent slopes**

**Map Unit Setting**

*National map unit symbol: hd56*  
*Elevation: 200 to 2,300 feet*  
*Mean annual precipitation: 10 to 25 inches*  
*Mean annual air temperature: 57 to 63 degrees F*  
*Frost-free period: 200 to 340 days*  
*Farmland classification: Farmland of statewide importance*

**Map Unit Composition**

*Altamont and similar soils: 85 percent*  
*Minor components: 15 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Altamont**

**Setting**

*Landform: Hills*  
*Landform position (two-dimensional): Backslope*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Parent material: Residuum weathered from sedimentary rock*

**Typical profile**

*H1 - 0 to 18 inches: clay*  
*H2 - 18 to 43 inches: clay*  
*H3 - 43 to 60 inches: bedrock*

**Properties and qualities**

*Slope: 5 to 15 percent*  
*Depth to restrictive feature: 40 to 60 inches to paralithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: Very high*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 10 percent*  
*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*  
*Available water capacity: Moderate (about 6.4 inches)*

**Interpretive groups**

*Land capability classification (irrigated): 3e*

## Custom Soil Resource Report

*Land capability classification (nonirrigated): 3e*  
*Hydrologic Soil Group: C*  
*Hydric soil rating: No*

### Minor Components

#### Unnamed

*Percent of map unit: 13 percent*  
*Hydric soil rating: No*

#### Unnamed

*Percent of map unit: 2 percent*  
*Landform: Fan remnants*  
*Hydric soil rating: Yes*

## AdC—Altamont soils, 3 to 15 percent slopes

### Map Unit Setting

*National map unit symbol: hd5d*  
*Elevation: 50 to 4,600 feet*  
*Mean annual precipitation: 9 to 24 inches*  
*Mean annual air temperature: 63 degrees F*  
*Frost-free period: 150 to 300 days*  
*Farmland classification: Farmland of statewide importance*

### Map Unit Composition

*Altamont, clay, moderately deep to deep, and similar soils: 60 percent*  
*Altamont, clay loam, moderately deep, and similar soils: 30 percent*  
*Minor components: 10 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Altamont, Clay, Moderately Deep To Deep

#### Setting

*Down-slope shape: Concave*  
*Across-slope shape: Convex*  
*Parent material: Residuum weathered from sedimentary rock*

#### Typical profile

*H1 - 0 to 10 inches: clay*  
*H2 - 10 to 26 inches: clay*  
*H3 - 26 to 34 inches: channery clay*  
*H4 - 34 to 44 inches: bedrock*

#### Properties and qualities

*Slope: 3 to 15 percent*  
*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: Very high*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*

## Custom Soil Resource Report

*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Low (about 4.5 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### **Description of Altamont, Clay Loam, Moderately Deep**

#### **Setting**

*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Residuum weathered from sedimentary rock

#### **Typical profile**

*H1 - 0 to 10 inches:* clay loam  
*H2 - 10 to 26 inches:* clay  
*H3 - 26 to 34 inches:* channery clay  
*H4 - 34 to 44 inches:* bedrock

#### **Properties and qualities**

*Slope:* 3 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Low (about 4.5 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### **Minor Components**

#### **Unnamed**

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

## **Add—Altamont soils, 15 to 30 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hd5f

*Elevation:* 50 to 4,600 feet

*Mean annual precipitation:* 9 to 24 inches

*Mean annual air temperature:* 63 degrees F

*Frost-free period:* 150 to 300 days

*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Altamont and similar soils:* 60 percent

*Altamont and similar soils:* 30 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Altamont**

#### **Setting**

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from sedimentary rock

#### **Typical profile**

*H1 - 0 to 10 inches:* clay

*H2 - 10 to 26 inches:* clay

*H3 - 26 to 34 inches:* channery clay

*H4 - 34 to 44 inches:* bedrock

#### **Properties and qualities**

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 10 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water capacity:* Low (about 4.5 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 4e

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

## Description of Altamont

### Setting

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Parent material:* Residuum weathered from sedimentary rock

### Typical profile

*H1 - 0 to 10 inches:* clay loam

*H2 - 10 to 26 inches:* clay

*H3 - 26 to 34 inches:* channery clay

*H4 - 34 to 44 inches:* bedrock

### Properties and qualities

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 10 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water capacity:* Low (about 4.5 inches)

### Interpretive groups

*Land capability classification (irrigated):* 4e

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

## Minor Components

### Unnamed

*Percent of map unit:* 10 percent

*Hydric soil rating:* No

## AdE—Altamont soils, 30 to 65 percent slopes

### Map Unit Setting

*National map unit symbol:* 2vf96

*Elevation:* 50 to 4,600 feet

*Mean annual precipitation:* 9 to 24 inches

*Mean annual air temperature:* 63 degrees F

*Frost-free period:* 150 to 300 days

*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Altamont, clay, and similar soils: 60 percent*

*Altamont, clay loam, and similar soils: 30 percent*

*Minor components: 10 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Altamont, Clay**

**Setting**

*Down-slope shape: Concave*

*Across-slope shape: Convex*

*Parent material: Residuum weathered from sedimentary rock*

**Typical profile**

*H1 - 0 to 10 inches: clay*

*H2 - 10 to 26 inches: clay*

*H3 - 26 to 34 inches: channery clay*

*H4 - 34 to 44 inches: bedrock*

**Properties and qualities**

*Slope: 30 to 65 percent*

*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*

*Drainage class: Well drained*

*Runoff class: Very high*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Calcium carbonate, maximum content: 10 percent*

*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

*Available water capacity: Low (about 4.5 inches)*

**Interpretive groups**

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 6e*

*Hydrologic Soil Group: D*

*Ecological site: R015XF002CA - Clayey Foothills*

*Hydric soil rating: No*

**Description of Altamont, Clay Loam**

**Setting**

*Down-slope shape: Concave*

*Across-slope shape: Concave*

*Parent material: Residuum weathered from sedimentary rock*

**Typical profile**

*H1 - 0 to 10 inches: clay loam*

*H2 - 10 to 26 inches: clay*

*H3 - 26 to 34 inches: channery clay*

*H4 - 34 to 44 inches: bedrock*

**Properties and qualities**

*Slope: 30 to 65 percent*

*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*

*Drainage class: Well drained*

## Custom Soil Resource Report

*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Low (about 4.5 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XF002CA - Clayey Foothills  
*Hydric soil rating:* No

### Minor Components

#### Unnamed

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

## AfsD—Altamont-Gullied land complex, shallow, 10 to 30 percent slopes

### Map Unit Setting

*National map unit symbol:* 2vf97  
*Elevation:* 1,100 feet  
*Mean annual precipitation:* 12 to 20 inches  
*Mean annual air temperature:* 57 degrees F  
*Frost-free period:* 260 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Altamont and similar soils:* 41 percent  
*Gullied land:* 39 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Altamont

#### Setting

*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sedimentary rock

#### Typical profile

*H1 - 0 to 10 inches:* clay  
*H2 - 10 to 28 inches:* clay  
*H3 - 28 to 60 inches:* bedrock



## Custom Soil Resource Report

### Properties and qualities

*Slope:* 10 to 30 percent  
*Depth to restrictive feature:* 24 to 40 inches to paralithic bedrock  
*Drainage class:* Moderately well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Low (about 4.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XF002CA - Clayey Foothills  
*Hydric soil rating:* No

### Description of Gullied Land

#### Setting

*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sedimentary rock

#### Typical profile

*H1 - 0 to 60 inches:* variable

### Properties and qualities

*Slope:* 10 to 30 percent  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)  
*Frequency of flooding:* OccasionalNone  
*Available water capacity:* Very low (about 0.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 8  
*Hydric soil rating:* No

### Minor Components

#### Unnamed

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

#### Rock outcrop

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

## **AfsE—Altamont-Gullied land complex, shallow, 30 to 65 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 2vf98  
*Elevation:* 200 to 3,250 feet  
*Mean annual precipitation:* 9 to 25 inches  
*Mean annual air temperature:* 59 to 63 degrees F  
*Frost-free period:* 200 to 310 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Altamont and similar soils:* 41 percent  
*Gullied land:* 39 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Altamont**

#### **Setting**

*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sedimentary rock

#### **Typical profile**

*H1 - 0 to 10 inches:* clay  
*H2 - 10 to 28 inches:* clay  
*H3 - 28 to 60 inches:* bedrock

#### **Properties and qualities**

*Slope:* 30 to 65 percent  
*Depth to restrictive feature:* 24 to 40 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Low (about 4.2 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XF002CA - Clayey Foothills  
*Hydric soil rating:* No

**Description of Gullied Land**

**Setting**

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Parent material:* Residuum weathered from sedimentary rock

**Typical profile**

*H1 - 0 to 60 inches:* variable

**Properties and qualities**

*Slope:* 30 to 65 percent

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)

*Frequency of flooding:* OccasionalNone

*Available water capacity:* Very low (about 0.0 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydric soil rating:* No

**Minor Components**

**Rock outcrop**

*Percent of map unit:* 10 percent

*Hydric soil rating:* No

**Unnamed**

*Percent of map unit:* 10 percent

*Hydric soil rating:* No

**AgE—Altamont-Rocky gullied land complex, 15 to 45 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hd5m

*Elevation:* 200 to 3,250 feet

*Mean annual precipitation:* 9 to 25 inches

*Mean annual air temperature:* 59 to 63 degrees F

*Frost-free period:* 200 to 310 days

*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Altamont and similar soils:* 50 percent

*Gullied land:* 20 percent

*Rock outcrop:* 15 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Altamont

### Setting

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from sedimentary rock

### Typical profile

*H1 - 0 to 30 inches:* clay loam

*H2 - 30 to 36 inches:* clay

*H3 - 36 to 60 inches:* bedrock

### Properties and qualities

*Slope:* 10 to 30 percent

*Depth to restrictive feature:* 24 to 40 inches to paralithic bedrock

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 10 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water capacity:* Low (about 5.7 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6e

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

## Description of Gullied Land

### Setting

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Parent material:* Residuum weathered from sedimentary rock

### Typical profile

*H1 - 0 to 60 inches:* variable

### Properties and qualities

*Slope:* 15 to 45 percent

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)

*Frequency of flooding:* OccasionalNone

*Available water capacity:* Very low (about 0.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydric soil rating:* No

## Minor Components

### Altamont

*Percent of map unit:* 10 percent

## Custom Soil Resource Report

*Hydric soil rating:* No

### **Unnamed**

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

## **AhC—Altamont-Contra Costa clays, 8 to 15 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hd5n

*Elevation:* 200 to 3,800 feet

*Mean annual precipitation:* 10 to 35 inches

*Mean annual air temperature:* 57 to 63 degrees F

*Frost-free period:* 200 to 340 days

*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Altamont and similar soils:* 65 percent

*Contra costa and similar soils:* 25 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Altamont**

#### **Setting**

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from sedimentary rock

#### **Typical profile**

*H1 - 0 to 18 inches:* clay

*H2 - 18 to 43 inches:* clay

*H3 - 43 to 60 inches:* bedrock

#### **Properties and qualities**

*Slope:* 8 to 15 percent

*Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 10 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water capacity:* Moderate (about 6.4 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 3e

## Custom Soil Resource Report

*Land capability classification (nonirrigated): 3e*  
*Hydrologic Soil Group: C*  
*Hydric soil rating: No*

### Description of Contra Costa

#### Setting

*Down-slope shape: Concave*  
*Across-slope shape: Linear*  
*Parent material: Residuum weathered from sedimentary rock*

#### Typical profile

*H1 - 0 to 5 inches: clay loam*  
*H2 - 5 to 21 inches: clay*  
*H3 - 21 to 34 inches: channery clay*  
*H4 - 34 to 44 inches: bedrock*

#### Properties and qualities

*Slope: 8 to 15 percent*  
*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: Very high*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Available water capacity: Low (about 5.0 inches)*

#### Interpretive groups

*Land capability classification (irrigated): 3e*  
*Land capability classification (nonirrigated): 3e*  
*Hydrologic Soil Group: D*  
*Hydric soil rating: No*

### Minor Components

#### Unnamed

*Percent of map unit: 10 percent*  
*Hydric soil rating: No*

## AhD—Altamont-Contra Costa clays, 15 to 30 percent slopes

#### Map Unit Setting

*National map unit symbol: hd5p*  
*Elevation: 200 to 3,800 feet*  
*Mean annual precipitation: 10 to 35 inches*  
*Mean annual air temperature: 57 to 63 degrees F*  
*Frost-free period: 200 to 340 days*  
*Farmland classification: Not prime farmland*

**Map Unit Composition**

*Altamont and similar soils: 65 percent*

*Contra costa and similar soils: 25 percent*

*Minor components: 10 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Altamont**

**Setting**

*Down-slope shape: Concave*

*Across-slope shape: Convex*

*Parent material: Residuum weathered from sedimentary rock*

**Typical profile**

*H1 - 0 to 18 inches: clay*

*H2 - 18 to 43 inches: clay*

*H3 - 43 to 60 inches: bedrock*

**Properties and qualities**

*Slope: 15 to 30 percent*

*Depth to restrictive feature: 40 to 60 inches to paralithic bedrock*

*Drainage class: Well drained*

*Runoff class: Very high*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Calcium carbonate, maximum content: 10 percent*

*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

*Available water capacity: Moderate (about 6.4 inches)*

**Interpretive groups**

*Land capability classification (irrigated): 4e*

*Land capability classification (nonirrigated): 4e*

*Hydrologic Soil Group: C*

*Hydric soil rating: No*

**Description of Contra Costa**

**Setting**

*Down-slope shape: Concave*

*Across-slope shape: Linear*

*Parent material: Residuum weathered from sedimentary rock*

**Typical profile**

*H1 - 0 to 5 inches: clay loam*

*H2 - 5 to 21 inches: clay*

*H3 - 21 to 34 inches: channery clay*

*H4 - 34 to 44 inches: bedrock*

**Properties and qualities**

*Slope: 15 to 30 percent*

*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*

*Drainage class: Well drained*

*Runoff class: Very high*

## Custom Soil Resource Report

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Low (about 5.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* 4e

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

### Minor Components

#### Unnamed

*Percent of map unit:* 10 percent

*Hydric soil rating:* No

## AhE—Altamont-Contra Costa clays, 30 to 50 percent slopes

### Map Unit Setting

*National map unit symbol:* hd5q

*Elevation:* 200 to 3,800 feet

*Mean annual precipitation:* 10 to 35 inches

*Mean annual air temperature:* 57 to 63 degrees F

*Frost-free period:* 200 to 340 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Altamont and similar soils:* 65 percent

*Contra costa and similar soils:* 25 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Altamont

#### Setting

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from sedimentary rock

#### Typical profile

*H1 - 0 to 18 inches:* clay

*H2 - 18 to 43 inches:* clay

*H3 - 43 to 60 inches:* bedrock

#### Properties and qualities

*Slope:* 30 to 50 percent

*Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock



## Custom Soil Resource Report

*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Moderate (about 6.4 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

### **Description of Contra Costa**

#### **Setting**

*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sedimentary rock

#### **Typical profile**

*H1 - 0 to 5 inches:* clay loam  
*H2 - 5 to 21 inches:* clay  
*H3 - 21 to 34 inches:* channery clay  
*H4 - 34 to 44 inches:* bedrock

#### **Properties and qualities**

*Slope:* 30 to 50 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Low (about 5.0 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### **Minor Components**

#### **Unnamed**

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

**AkE3—Millsholm-Altamont-Rock outcrop complex, 10 to 55 percent slopes, severely eroded, MLRA 15**

**Map Unit Setting**

*National map unit symbol:* 2y0gv  
*Elevation:* 340 to 1,100 feet  
*Mean annual precipitation:* 21 to 24 inches  
*Mean annual air temperature:* 61 to 62 degrees F  
*Frost-free period:* 267 to 300 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Millsholm and similar soils:* 55 percent  
*Altamont and similar soils:* 20 percent  
*Rock outcrop:* 15 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Millsholm**

**Setting**

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sandstone and shale

**Typical profile**

*A - 0 to 1 inches:* loam  
*Bw1 - 1 to 6 inches:* loam  
*Bw2 - 6 to 16 inches:* loam  
*R - 16 to 26 inches:* bedrock

**Properties and qualities**

*Slope:* 10 to 55 percent  
*Depth to restrictive feature:* 8 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 1.28 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.3 to 0.5 mmhos/cm)  
*Available water capacity:* Very low (about 2.9 inches)

## Custom Soil Resource Report

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### Description of Altamont

#### Setting

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Slope alluvium derived from sedimentary rock over residuum weathered from sedimentary rock

#### Typical profile

*A1 - 0 to 2 inches:* clay loam  
*A2 - 2 to 11 inches:* clay  
*Bss - 11 to 20 inches:* clay  
*Bkss1 - 20 to 26 inches:* clay  
*Bkss2 - 26 to 34 inches:* gravelly clay  
*R - 34 to 44 inches:* bedrock

#### Properties and qualities

*Slope:* 10 to 55 percent  
*Depth to restrictive feature:* 10 to 39 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.01 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 4 percent  
*Maximum salinity:* Nonsaline (0.2 to 0.5 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 1.0  
*Available water capacity:* Low (about 4.4 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### Minor Components

#### Lodo

*Percent of map unit:* 5 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Gullied land**

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

**AmC—Altamont-Nacimiento association, 3 to 15 percent slopes**

**Map Unit Setting**

*National map unit symbol: hd5s*  
*Elevation: 200 to 3,300 feet*  
*Mean annual precipitation: 10 to 25 inches*  
*Mean annual air temperature: 57 to 64 degrees F*  
*Frost-free period: 200 to 340 days*  
*Farmland classification: Farmland of statewide importance*

**Map Unit Composition**

*Altamont and similar soils: 65 percent*  
*Nacimiento and similar soils: 20 percent*  
*Minor components: 15 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Altamont**

**Setting**

*Down-slope shape: Concave*  
*Across-slope shape: Linear*  
*Parent material: Residuum weathered from sedimentary rock*

**Typical profile**

*H1 - 0 to 18 inches: clay*  
*H2 - 18 to 43 inches: clay*  
*H3 - 43 to 60 inches: bedrock*

**Properties and qualities**

*Slope: 5 to 15 percent*  
*Depth to restrictive feature: 40 to 60 inches to paralithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: Very high*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 10 percent*  
*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*  
*Available water capacity: Moderate (about 6.4 inches)*

**Interpretive groups**

*Land capability classification (irrigated): 3e*  
*Land capability classification (nonirrigated): 3e*

## Custom Soil Resource Report

*Hydrologic Soil Group: C*

*Hydric soil rating: No*

### Description of Nacimiento

#### Setting

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Parent material: Residuum weathered from sedimentary rock*

#### Typical profile

*H1 - 0 to 10 inches: clay*

*H2 - 10 to 41 inches: clay*

*H3 - 41 to 60 inches: bedrock*

#### Properties and qualities

*Slope: 5 to 15 percent*

*Depth to restrictive feature: 36 to 55 inches to paralithic bedrock*

*Drainage class: Well drained*

*Runoff class: Very high*

*Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Calcium carbonate, maximum content: 20 percent*

*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

*Available water capacity: Moderate (about 6.6 inches)*

#### Interpretive groups

*Land capability classification (irrigated): 3e*

*Land capability classification (nonirrigated): 3e*

*Hydrologic Soil Group: C*

*Hydric soil rating: No*

### Minor Components

#### Unnamed

*Percent of map unit: 10 percent*

*Hydric soil rating: No*

#### Gullied land

*Percent of map unit: 5 percent*

*Hydric soil rating: No*

## CaA—Capay clay, 0 to 4 percent slopes, MLRA 17

### Map Unit Setting

*National map unit symbol: 2xc8p*

*Elevation: 90 to 630 feet*

*Mean annual precipitation: 21 to 24 inches*

## Custom Soil Resource Report

*Mean annual air temperature:* 62 to 62 degrees F  
*Frost-free period:* 290 to 317 days  
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Capay and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Capay

#### Setting

*Landform:* Basin floors  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Clayey alluvium derived from metamorphic and sedimentary rock

#### Typical profile

*Ap - 0 to 9 inches:* clay  
*Bss - 9 to 21 inches:* clay  
*Bkss1 - 21 to 34 inches:* clay  
*Bkss2 - 34 to 45 inches:* silty clay  
*Bkss3 - 45 to 60 inches:* silty clay loam

#### Properties and qualities

*Slope:* 0 to 4 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat poorly drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 45 to 71 inches  
*Frequency of flooding:* NoneRare  
*Frequency of ponding:* Frequent  
*Calcium carbonate, maximum content:* 10 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline (0.3 to 1.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 3.0  
*Available water capacity:* High (about 9.1 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 2w  
*Land capability classification (nonirrigated):* 3w  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

### Minor Components

#### Clear lake

*Percent of map unit:* 7 percent  
*Landform:* Basin floors  
*Hydric soil rating:* Yes

#### Myers

*Percent of map unit:* 6 percent

## Custom Soil Resource Report

*Hydric soil rating:* No

### Unnamed

*Percent of map unit:* 1 percent

*Landform:* Depressions

*Hydric soil rating:* Yes

### Unnamed

*Percent of map unit:* 1 percent

*Landform:* Drainageways

*Hydric soil rating:* Yes

## CaB—Capay clay, 0 to 11 percent slopes, MLRA 17

### Map Unit Setting

*National map unit symbol:* 2xcc4

*Elevation:* 240 to 880 feet

*Mean annual precipitation:* 20 to 24 inches

*Mean annual air temperature:* 61 to 62 degrees F

*Frost-free period:* 272 to 303 days

*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Capay and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Capay

#### Setting

*Landform:* Alluvial fans, stream terraces

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear, concave

*Across-slope shape:* Linear, concave

*Parent material:* Alluvium derived from sedimentary rock

#### Typical profile

*Ap - 0 to 9 inches:* clay

*Bss - 9 to 21 inches:* clay

*Bkss1 - 21 to 34 inches:* clay

*Bkss2 - 34 to 45 inches:* silty clay

*Bkss3 - 45 to 60 inches:* silty clay loam

#### Properties and qualities

*Slope:* 0 to 11 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Somewhat poorly drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

## Custom Soil Resource Report

*Depth to water table:* About 60 to 79 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline (0.3 to 1.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 3.0  
*Available water capacity:* High (about 9.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2e  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

### Minor Components

#### Unnamed

*Percent of map unit:* 8 percent  
*Hydric soil rating:* No

#### Gullied land

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 2 percent  
*Landform:* Drainageways  
*Hydric soil rating:* Yes

## CeB—Columbia fine sandy loam, 2 to 8 percent slopes

### Map Unit Setting

*National map unit symbol:* hd6n  
*Elevation:* 10 to 150 feet  
*Mean annual precipitation:* 12 to 25 inches  
*Mean annual air temperature:* 57 to 63 degrees F  
*Frost-free period:* 230 to 340 days  
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Columbia and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Columbia

#### Setting

*Landform:* Flood plains  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear



## Custom Soil Resource Report

*Parent material:* Alluvium

### Typical profile

*H1 - 0 to 12 inches:* fine sandy loam

*H2 - 12 to 60 inches:* stratified sand to silt loam

### Properties and qualities

*Slope:* 2 to 5 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Moderately well drained

*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* High (1.98 to 5.95 in/hr)

*Depth to water table:* About 0 inches

*Frequency of flooding:* OccasionalNone

*Frequency of ponding:* None

*Available water capacity:* Moderate (about 6.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2w

*Land capability classification (nonirrigated):* 3w

*Hydrologic Soil Group:* A/D

*Hydric soil rating:* Yes

### Minor Components

#### Unnamed

*Percent of map unit:* 12 percent

*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 3 percent

*Landform:* Flood plains

*Hydric soil rating:* Yes

## HgB—Hillgate loam, 2 to 8 percent slopes

### Map Unit Setting

*National map unit symbol:* hd7z

*Elevation:* 2,000 feet

*Mean annual precipitation:* 22 inches

*Mean annual air temperature:* 64 degrees F

*Frost-free period:* 240 to 305 days

*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Hillgate and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Hillgate

### Setting

*Landform:* Terraces

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from sedimentary rock

### Typical profile

*H1 - 0 to 15 inches:* loam

*H2 - 15 to 28 inches:* clay

*H3 - 28 to 60 inches:* silty clay loam

### Properties and qualities

*Slope:* 2 to 8 percent

*Depth to restrictive feature:* 15 inches to abrupt textural change

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Very low (about 2.5 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3e

*Land capability classification (nonirrigated):* 3e

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

## Minor Components

### Tehama

*Percent of map unit:* 8 percent

*Hydric soil rating:* No

### Kimball

*Percent of map unit:* 7 percent

*Hydric soil rating:* No

## HI—Hillgate clay loam, 0 to 3 percent slopes

### Map Unit Setting

*National map unit symbol:* hd83

*Elevation:* 2,000 feet

*Mean annual precipitation:* 22 inches

*Mean annual air temperature:* 64 degrees F

*Frost-free period:* 285 to 310 days

*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Hillgate and similar soils: 85 percent*

*Minor components: 15 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Hillgate**

**Setting**

*Landform: Terraces*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Parent material: Alluvium derived from sedimentary rock*

**Typical profile**

*H1 - 0 to 15 inches: clay loam*

*H2 - 15 to 60 inches: clay*

**Properties and qualities**

*Slope: 0 to 3 percent*

*Depth to restrictive feature: More than 80 inches*

*Drainage class: Well drained*

*Runoff class: Very high*

*Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Available water capacity: Low (about 5.4 inches)*

**Interpretive groups**

*Land capability classification (irrigated): 3s*

*Land capability classification (nonirrigated): 3s*

*Hydrologic Soil Group: D*

*Hydric soil rating: No*

**Minor Components**

**Corning**

*Percent of map unit: 5 percent*

*Landform: Depressions*

*Hydric soil rating: Yes*

**Arbuckle**

*Percent of map unit: 5 percent*

*Landform: Fans*

*Hydric soil rating: Yes*

**Tehama**

*Percent of map unit: 3 percent*

*Hydric soil rating: No*

**Kimball**

*Percent of map unit: 2 percent*

*Hydric soil rating: No*

## **KmA—Kimball gravelly loam, 0 to 2 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hd8w

*Elevation:* 100 to 1,500 feet

*Mean annual precipitation:* 18 inches

*Mean annual air temperature:* 63 degrees F

*Frost-free period:* 300 to 310 days

*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Kimball and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Kimball**

#### **Setting**

*Landform:* Terraces

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium

#### **Typical profile**

*H1 - 0 to 16 inches:* gravelly loam

*H2 - 16 to 27 inches:* gravelly clay

*H3 - 27 to 60 inches:* gravelly sandy clay loam

#### **Properties and qualities**

*Slope:* 0 to 2 percent

*Depth to restrictive feature:* 16 inches to abrupt textural change

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Very low (about 2.3 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 3s

*Land capability classification (nonirrigated):* 3s

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

### **Minor Components**

#### **Arbuckle**

*Percent of map unit:* 5 percent

## Custom Soil Resource Report

*Hydric soil rating:* No

### **Unnamed**

*Percent of map unit:* 5 percent

*Landform:* Depressions

*Hydric soil rating:* Yes

### **Unnamed**

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

## **KmB—Kimball gravelly loam, 2 to 10 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hd8x

*Elevation:* 100 to 1,500 feet

*Mean annual precipitation:* 18 inches

*Mean annual air temperature:* 63 degrees F

*Frost-free period:* 250 to 280 days

*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Kimball and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Kimball**

#### **Setting**

*Landform:* Terraces

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium

#### **Typical profile**

*H1 - 0 to 16 inches:* gravelly loam

*H2 - 16 to 27 inches:* gravelly clay

*H3 - 27 to 60 inches:* gravelly sandy clay loam

#### **Properties and qualities**

*Slope:* 2 to 10 percent

*Depth to restrictive feature:* 16 inches to abrupt textural change

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Very low (about 2.3 inches)

**Interpretive groups**

*Land capability classification (irrigated): 3e*  
*Land capability classification (nonirrigated): 3e*  
*Hydrologic Soil Group: D*  
*Hydric soil rating: No*

**Minor Components**

**Gullied land**

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

**Unnamed**

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

**Arbuckle**

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

**McD—Masterson gravelly loam, 10 to 30 percent slopes**

**Map Unit Setting**

*National map unit symbol: hd9t*  
*Elevation: 5,000 to 6,500 feet*  
*Mean annual precipitation: 50 inches*  
*Mean annual air temperature: 48 degrees F*  
*Frost-free period: 110 to 150 days*  
*Farmland classification: Not prime farmland*

**Map Unit Composition**

*Masterson and similar soils: 85 percent*  
*Minor components: 15 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Masterson**

**Setting**

*Down-slope shape: Concave*  
*Across-slope shape: Concave*  
*Parent material: Residuum weathered from metasedimentary rock*

**Typical profile**

*H1 - 0 to 21 inches: gravelly loam*  
*H2 - 21 to 35 inches: very gravelly loam*  
*H3 - 35 to 45 inches: bedrock*

**Properties and qualities**

*Slope: 10 to 30 percent*  
*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*  
*Drainage class: Well drained*

## Custom Soil Resource Report

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* Low to high (0.01 to 5.95 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Low (about 3.6 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* B

*Hydric soil rating:* No

### **Minor Components**

#### **Sheetiron**

*Percent of map unit:* 10 percent

*Hydric soil rating:* No

#### **Rock outcrop**

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

## **MmD—Millsholm-Rock outcrop-Gullied land complex, 5 to 30 percent slopes, MLRA 15**

### **Map Unit Setting**

*National map unit symbol:* 2y0gr

*Elevation:* 320 to 840 feet

*Mean annual precipitation:* 21 to 24 inches

*Mean annual air temperature:* 61 to 63 degrees F

*Frost-free period:* 227 to 314 days

*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Millsholm and similar soils:* 70 percent

*Rock outcrop:* 10 percent

*Gullied land:* 10 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Millsholm**

#### **Setting**

*Landform:* Hillslopes

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from sedimentary rock

## Custom Soil Resource Report

### Typical profile

*A - 0 to 1 inches:* loam  
*Bw - 1 to 6 inches:* loam  
*Bt - 6 to 16 inches:* loam  
*R - 16 to 26 inches:* bedrock

### Properties and qualities

*Slope:* 5 to 30 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 1.28 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.3 to 0.5 mmhos/cm)  
*Available water capacity:* Very low (about 2.9 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### Description of Gullied Land

#### Properties and qualities

*Slope:* 5 to 30 percent  
*Runoff class:* Very high  
*Frequency of flooding:* Occasional

### Description of Rock Outcrop

#### Properties and qualities

*Slope:* 5 to 30 percent  
*Depth to restrictive feature:* 0 to 4 inches to lithic bedrock

### Minor Components

#### Altamont

*Percent of map unit:* 5 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave, convex  
*Hydric soil rating:* No

#### Shehorn

*Percent of map unit:* 5 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave, convex  
*Hydric soil rating:* No



**MmE—Millsholm loam-Gullied land complex, 10 to 55 percent slopes,  
MLRA 15**

**Map Unit Setting**

*National map unit symbol:* 2y0gs  
*Elevation:* 350 to 890 feet  
*Mean annual precipitation:* 21 to 23 inches  
*Mean annual air temperature:* 61 to 62 degrees F  
*Frost-free period:* 278 to 300 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Millsholm and similar soils:* 60 percent  
*Gullied land:* 20 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Millsholm**

**Setting**

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex, concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sedimentary rock

**Typical profile**

*A - 0 to 1 inches:* loam  
*Bw - 1 to 6 inches:* loam  
*Bt - 6 to 16 inches:* loam  
*R - 16 to 26 inches:* bedrock

**Properties and qualities**

*Slope:* 10 to 55 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 1.28 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.3 to 0.5 mmhos/cm)  
*Available water capacity:* Very low (about 2.9 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

**Description of Gullied Land**

**Setting**

*Parent material:* Residuum

**Properties and qualities**

*Slope:* 10 to 55 percent  
*Runoff class:* Very high  
*Frequency of flooding:* Occasional

**Minor Components**

**Shehorn**

*Percent of map unit:* 10 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Altamont**

*Percent of map unit:* 5 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave, convex  
*Hydric soil rating:* No

**Rock outcrop**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**MnD—Millsholm silt loam, 10 to 30 percent slopes, MLRA 15**

**Map Unit Setting**

*National map unit symbol:* 2t7qm  
*Elevation:* 300 to 1,380 feet  
*Mean annual precipitation:* 19 to 23 inches  
*Mean annual air temperature:* 57 to 63 degrees F  
*Frost-free period:* 130 to 330 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Millsholm and similar soils: 85 percent*

*Minor components: 15 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Millsholm**

**Setting**

*Landform: Hillslopes*

*Landform position (two-dimensional): Shoulder*

*Landform position (three-dimensional): Side slope*

*Down-slope shape: Convex, concave*

*Across-slope shape: Convex*

*Parent material: Residuum weathered from sandstone and shale*

**Typical profile**

*A - 0 to 1 inches: silt loam*

*Bw - 1 to 6 inches: silty clay loam*

*Bt - 6 to 16 inches: silty clay loam*

*R - 16 to 26 inches: bedrock*

**Properties and qualities**

*Slope: 10 to 30 percent*

*Depth to restrictive feature: 10 to 20 inches to lithic bedrock*

*Drainage class: Well drained*

*Runoff class: High*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.28 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Maximum salinity: Nonsaline (0.3 to 0.5 mmhos/cm)*

*Available water capacity: Low (about 3.1 inches)*

**Interpretive groups**

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 4e*

*Hydrologic Soil Group: D*

*Ecological site: R015XF004CA - Shallow Loamy Foothills*

*Hydric soil rating: No*

**Minor Components**

**Shehorn**

*Percent of map unit: 8 percent*

*Hydric soil rating: No*

**Altamont**

*Percent of map unit: 7 percent*

*Hydric soil rating: No*

## MoD—Millsholm silt loam, 3 to 25 percent slopes, MLRA 15

### Map Unit Setting

*National map unit symbol:* 2y0g0  
*Elevation:* 280 to 840 feet  
*Mean annual precipitation:* 21 to 22 inches  
*Mean annual air temperature:* 61 to 62 degrees F  
*Frost-free period:* 266 to 300 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Millsholm and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Millsholm

#### Setting

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex, concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sedimentary rock

#### Typical profile

*A - 0 to 1 inches:* silt loam  
*Bw - 1 to 6 inches:* silty clay loam  
*Bt - 6 to 16 inches:* silty clay loam  
*R - 16 to 26 inches:* bedrock

#### Properties and qualities

*Slope:* 3 to 25 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.28 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.3 to 0.5 mmhos/cm)  
*Available water capacity:* Low (about 3.1 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

**Minor Components**

**Sehorn**

*Percent of map unit: 5 percent*  
*Landform: Hillslopes*  
*Landform position (two-dimensional): Backslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Concave*  
*Across-slope shape: Convex*  
*Hydric soil rating: No*

**Rock outcrop**

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

**Altamont**

*Percent of map unit: 5 percent*  
*Landform: Hillslopes*  
*Landform position (two-dimensional): Backslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Concave*  
*Across-slope shape: Concave, convex*  
*Hydric soil rating: No*

**MoE—Millsholm-Rock outcrop complex, 10 to 50 percent slopes, MLRA 15**

**Map Unit Setting**

*National map unit symbol: 2y0g1*  
*Elevation: 410 to 800 feet*  
*Mean annual precipitation: 21 to 21 inches*  
*Mean annual air temperature: 61 to 62 degrees F*  
*Frost-free period: 286 to 299 days*  
*Farmland classification: Not prime farmland*

**Map Unit Composition**

*Millsholm and similar soils: 80 percent*  
*Rock outcrop: 10 percent*  
*Minor components: 10 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Millsholm**

**Setting**

*Landform: Hillslopes*  
*Landform position (two-dimensional): Backslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Convex, concave*  
*Across-slope shape: Convex*  
*Parent material: Residuum weathered from sedimentary rock*

## Custom Soil Resource Report

### Typical profile

*A - 0 to 1 inches:* silt loam  
*Bw - 1 to 6 inches:* silty clay loam  
*Bt - 6 to 16 inches:* silty clay loam  
*R - 16 to 26 inches:* bedrock

### Properties and qualities

*Slope:* 10 to 50 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.28 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.3 to 0.5 mmhos/cm)  
*Available water capacity:* Low (about 3.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### Description of Rock Outcrop

#### Properties and qualities

*Slope:* 10 to 50 percent  
*Depth to restrictive feature:* 0 to 4 inches to lithic bedrock

### Minor Components

#### Altamont

*Percent of map unit:* 5 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave, convex  
*Hydric soil rating:* No

#### Sehorn

*Percent of map unit:* 5 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**MrD—Millsholm very gravelly coarse sandy loam, 5 to 20 percent slopes, MLRA 15**

**Map Unit Setting**

*National map unit symbol:* 2y0gf  
*Elevation:* 360 to 470 feet  
*Mean annual precipitation:* 21 to 21 inches  
*Mean annual air temperature:* 62 to 62 degrees F  
*Frost-free period:* 297 to 299 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Millsholm and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Millsholm**

**Setting**

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Colluvium derived from conglomerate over residuum weathered from conglomerate

**Typical profile**

*A1 - 0 to 7 inches:* very gravelly coarse sandy loam  
*A2 - 7 to 23 inches:* very gravelly sandy loam  
*R - 23 to 33 inches:* bedrock

**Properties and qualities**

*Slope:* 5 to 20 percent  
*Depth to restrictive feature:* 14 to 26 inches to lithic bedrock  
*Drainage class:* Somewhat excessively drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 0.71 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.3 to 0.5 mmhos/cm)  
*Available water capacity:* Very low (about 1.8 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e

## Custom Soil Resource Report

*Hydrologic Soil Group: C*  
*Hydric soil rating: No*

### Minor Components

#### Rock outcrop

*Percent of map unit: 8 percent*  
*Hydric soil rating: No*

#### Sehorn

*Percent of map unit: 5 percent*  
*Landform: Hillslopes*  
*Landform position (two-dimensional): Footslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Concave*  
*Across-slope shape: Convex*  
*Hydric soil rating: No*

#### Altamont

*Percent of map unit: 2 percent*  
*Landform: Hillslopes*  
*Landform position (two-dimensional): Footslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Concave*  
*Across-slope shape: Concave*  
*Hydric soil rating: No*

## MtD—Millsholm-Rock outcrop complex, 10 to 40 percent slopes, MLRA 15

### Map Unit Setting

*National map unit symbol: 2y0g2*  
*Elevation: 300 to 770 feet*  
*Mean annual precipitation: 21 to 22 inches*  
*Mean annual air temperature: 61 to 62 degrees F*  
*Frost-free period: 285 to 304 days*  
*Farmland classification: Not prime farmland*

### Map Unit Composition

*Millsholm and similar soils: 70 percent*  
*Rock outcrop: 20 percent*  
*Minor components: 10 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Millsholm

#### Setting

*Landform: Hillslopes*  
*Landform position (two-dimensional): Backslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Convex*



## Custom Soil Resource Report

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from sedimentary rock

### Typical profile

*A - 0 to 1 inches:* loam

*Bw - 1 to 6 inches:* loam

*Bt - 6 to 16 inches:* loam

*R - 16 to 26 inches:* bedrock

### Properties and qualities

*Slope:* 10 to 40 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 1.28 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.3 to 0.5 mmhos/cm)

*Available water capacity:* Very low (about 2.9 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

### Description of Rock Outcrop

#### Properties and qualities

*Slope:* 10 to 40 percent

*Depth to restrictive feature:* 0 to 4 inches to lithic bedrock

### Minor Components

#### Altamont

*Percent of map unit:* 5 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* No

#### Sehorn

*Percent of map unit:* 5 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Hydric soil rating:* No

**MuE—Millsholm-Rock outcrop complex, 15 to 55 percent slopes, MLRA  
15**

**Map Unit Setting**

*National map unit symbol:* 2y0gd  
*Elevation:* 640 to 1,540 feet  
*Mean annual precipitation:* 22 to 26 inches  
*Mean annual air temperature:* 59 to 62 degrees F  
*Frost-free period:* 228 to 307 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Millsholm and similar soils:* 70 percent  
*Rock outcrop:* 20 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Millsholm**

**Setting**

*Landform:* Hogbacks  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex, concave  
*Across-slope shape:* Convex  
*Parent material:* Colluvium derived from conglomerate over residuum weathered from conglomerate

**Typical profile**

*A1 - 0 to 7 inches:* very gravelly coarse sandy loam  
*A2 - 7 to 23 inches:* very gravelly sandy loam  
*R - 23 to 33 inches:* bedrock

**Properties and qualities**

*Slope:* 15 to 55 percent  
*Depth to restrictive feature:* 14 to 26 inches to lithic bedrock  
*Drainage class:* Somewhat excessively drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 0.71 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.3 to 0.5 mmhos/cm)  
*Available water capacity:* Very low (about 1.8 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

## Custom Soil Resource Report

*Land capability classification (nonirrigated): 7e*  
*Hydrologic Soil Group: C*  
*Ecological site: R015XF004CA - Shallow Loamy Foothills*  
*Hydric soil rating: No*

### Description of Rock Outcrop

#### Properties and qualities

*Slope: 15 to 55 percent*  
*Depth to restrictive feature: 0 to 4 inches to lithic bedrock*

### Minor Components

#### Contra costa

*Percent of map unit: 10 percent*  
*Landform: Hogbacks*  
*Landform position (two-dimensional): Backslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Concave*  
*Across-slope shape: Concave, convex*  
*Hydric soil rating: No*

## MzrA—Myers clay, 0 to 1 percent slopes, MLRA 17

### Map Unit Setting

*National map unit symbol: 2xcb8*  
*Elevation: 30 to 410 feet*  
*Mean annual precipitation: 18 to 23 inches*  
*Mean annual air temperature: 62 to 62 degrees F*  
*Frost-free period: 297 to 328 days*  
*Farmland classification: Prime farmland if irrigated*

### Map Unit Composition

*Myers, clay, and similar soils: 85 percent*  
*Minor components: 15 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Myers, Clay

#### Setting

*Landform: Alluvial fans, basin floors*  
*Landform position (two-dimensional): Toeslope*  
*Landform position (three-dimensional): Tread*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Parent material: Clayey alluvium derived from igneous, metamorphic and sedimentary rock*

#### Typical profile

*Ap - 0 to 3 inches: clay*

## Custom Soil Resource Report

*Btss* - 3 to 25 inches: clay  
*Bss1* - 25 to 43 inches: clay  
*Bss2* - 43 to 56 inches: clay  
*Bt* - 56 to 71 inches: clay loam

### Properties and qualities

*Slope*: 0 to 1 percent  
*Depth to restrictive feature*: More than 80 inches  
*Drainage class*: Moderately well drained  
*Runoff class*: Very low  
*Capacity of the most limiting layer to transmit water (Ksat)*: Very low to moderately low (0.00 to 0.01 in/hr)  
*Depth to water table*: More than 80 inches  
*Frequency of flooding*: Rare/None  
*Frequency of ponding*: Frequent  
*Calcium carbonate, maximum content*: 1 percent  
*Maximum salinity*: Nonsaline to very slightly saline (0.2 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum*: 2.0  
*Available water capacity*: Moderate (about 8.9 inches)

### Interpretive groups

*Land capability classification (irrigated)*: 2s  
*Land capability classification (nonirrigated)*: 4s  
*Hydrologic Soil Group*: D  
*Hydric soil rating*: No

### Minor Components

#### Capay, clay loam

*Percent of map unit*: 5 percent  
*Landform*: Basin floors  
*Down-slope shape*: Linear  
*Across-slope shape*: Linear  
*Hydric soil rating*: No

#### Altamont

*Percent of map unit*: 3 percent  
*Landform*: Strath terraces  
*Landform position (two-dimensional)*: Toeslope  
*Landform position (three-dimensional)*: Tread  
*Down-slope shape*: Convex  
*Across-slope shape*: Convex  
*Hydric soil rating*: No

#### Hillgate

*Percent of map unit*: 2 percent  
*Landform*: Fan remnants  
*Landform position (two-dimensional)*: Toeslope  
*Landform position (three-dimensional)*: Tread  
*Down-slope shape*: Linear  
*Across-slope shape*: Linear  
*Hydric soil rating*: No

#### Westfan, loam

*Percent of map unit*: 2 percent  
*Landform*: Alluvial fans  
*Landform position (two-dimensional)*: Toeslope

## Custom Soil Resource Report

*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### **Arbuckle, sandy loam**

*Percent of map unit:* 2 percent  
*Landform:* Fan remnants  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### **Unnamed**

*Percent of map unit:* 1 percent  
*Landform:* Channels  
*Hydric soil rating:* Yes

## **MzrB—Myers clay, 3 to 10 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hdcb  
*Elevation:* 30 to 2,000 feet  
*Mean annual precipitation:* 14 to 16 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Prime farmland if irrigated

### **Map Unit Composition**

*Myers and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Myers**

#### **Setting**

*Landform:* Alluvial fans  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from sedimentary rock

#### **Typical profile**

*H1 - 0 to 29 inches:* clay  
*H2 - 29 to 60 inches:* clay

#### **Properties and qualities**

*Slope:* 3 to 8 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Very high

## Custom Soil Resource Report

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water capacity:* Moderate (about 9.0 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* 2e

*Land capability classification (nonirrigated):* 3e

*Hydrologic Soil Group:* C

*Hydric soil rating:* No

### **Minor Components**

#### **Hillgate**

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### **Capay**

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### **Yolo**

*Percent of map unit:* 5 percent

*Landform:* Fans

*Hydric soil rating:* Yes

## **MzxB—Myers-Gullied land complex, 3 to 10 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hdcc

*Elevation:* 30 to 2,000 feet

*Mean annual precipitation:* 14 to 16 inches

*Mean annual air temperature:* 61 to 63 degrees F

*Frost-free period:* 225 to 250 days

*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Myers and similar soils:* 41 percent

*Gullied land:* 39 percent

*Minor components:* 20 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Myers**

#### **Setting**

*Landform:* Alluvial fans

*Down-slope shape:* Concave

*Across-slope shape:* Convex

## Custom Soil Resource Report

*Parent material:* Alluvium derived from sedimentary rock

### Typical profile

*H1 - 0 to 25 inches:* clay

*H2 - 25 to 46 inches:* clay

*H3 - 46 to 60 inches:* clay loam

### Properties and qualities

*Slope:* 3 to 8 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water capacity:* High (about 9.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2e

*Land capability classification (nonirrigated):* 3e

*Hydrologic Soil Group:* C

*Hydric soil rating:* No

## Description of Gullied Land

### Setting

*Landform:* Alluvial fans

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Parent material:* Alluvium derived from sedimentary rock

### Typical profile

*H1 - 0 to 60 inches:* variable

### Properties and qualities

*Slope:* 2 to 8 percent

*Runoff class:* Very high

*Frequency of flooding:* OccasionalNone

*Available water capacity:* Very low (about 0.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydric soil rating:* No

## Minor Components

### Hillgate

*Percent of map unit:* 12 percent

*Hydric soil rating:* No

### Yolo

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

**Unnamed**

*Percent of map unit:* 3 percent  
*Landform:* Drainageways  
*Hydric soil rating:* Yes

**MzyB—Myers clay loam, 3 to 8 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hdcf  
*Elevation:* 30 to 2,000 feet  
*Mean annual precipitation:* 14 to 16 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 225 to 250 days  
*Farmland classification:* Prime farmland if irrigated

**Map Unit Composition**

*Myers and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Myers**

**Setting**

*Landform:* Alluvial fans  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from sedimentary rock

**Typical profile**

*H1 - 0 to 29 inches:* clay loam  
*H2 - 29 to 60 inches:* clay

**Properties and qualities**

*Slope:* 2 to 8 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* High (about 9.6 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 2e  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* C



## Custom Soil Resource Report

*Hydric soil rating:* No

### Minor Components

#### Capay

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### Yolo

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### Hillgate

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

## NcD—Nacimiento soils, 10 to 30 percent slopes

### Map Unit Setting

*National map unit symbol:* hdck

*Elevation:* 200 to 3,300 feet

*Mean annual precipitation:* 9 to 25 inches

*Mean annual air temperature:* 59 to 64 degrees F

*Frost-free period:* 200 to 330 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Nacimiento, clay, moderately deep and deep, and similar soils:* 60 percent

*Nacimiento, clay loam, and similar soils:* 30 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Nacimiento, Clay, Moderately Deep And Deep

#### Setting

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from sedimentary rock

#### Typical profile

*H1 - 0 to 10 inches:* clay

*H2 - 10 to 41 inches:* clay

*H3 - 41 to 60 inches:* bedrock

#### Properties and qualities

*Slope:* 10 to 30 percent

*Depth to restrictive feature:* 36 to 55 inches to paralithic bedrock

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

## Custom Soil Resource Report

*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 20 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Moderate (about 6.6 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

### **Description of Nacimiento, Clay Loam**

#### **Setting**

*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Residuum weathered from sedimentary rock

#### **Typical profile**

*H1 - 0 to 10 inches:* clay loam  
*H2 - 10 to 36 inches:* clay  
*H3 - 36 to 60 inches:* bedrock

#### **Properties and qualities**

*Slope:* 10 to 30 percent  
*Depth to restrictive feature:* 30 to 55 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 20 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Low (about 5.7 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### **Minor Components**

#### **Unnamed**

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

## **NcE—Nacimiento soils, 30 to 50 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hdcl  
*Elevation:* 200 to 3,300 feet  
*Mean annual precipitation:* 9 to 25 inches  
*Mean annual air temperature:* 59 to 64 degrees F  
*Frost-free period:* 200 to 330 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Nacimiento, clay, moderately deep and deep, and similar soils:* 60 percent  
*Nacimiento, clay loam, and similar soils:* 30 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

## **Description of Nacimiento, Clay, Moderately Deep And Deep**

### **Setting**

*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sedimentary rock

### **Typical profile**

*H1 - 0 to 10 inches:* clay  
*H2 - 10 to 41 inches:* clay  
*H3 - 41 to 60 inches:* bedrock

### **Properties and qualities**

*Slope:* 30 to 50 percent  
*Depth to restrictive feature:* 36 to 55 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 20 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Moderate (about 6.6 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

## Description of Nacimiento, Clay Loam

### Setting

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Parent material:* Residuum weathered from sedimentary rock

### Typical profile

*H1 - 0 to 10 inches:* clay loam

*H2 - 10 to 36 inches:* clay

*H3 - 36 to 60 inches:* bedrock

### Properties and qualities

*Slope:* 30 to 50 percent

*Depth to restrictive feature:* 30 to 36 inches to paralithic bedrock

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 20 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Available water capacity:* Low (about 5.6 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6e

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

### Minor Components

#### Unnamed

*Percent of map unit:* 10 percent

*Hydric soil rating:* No

## NhC—Nacimiento-Contra Costa association, 3 to 15 percent slopes

### Map Unit Setting

*National map unit symbol:* hdcr

*Elevation:* 200 to 3,800 feet

*Mean annual precipitation:* 9 to 35 inches

*Mean annual air temperature:* 59 to 63 degrees F

*Frost-free period:* 200 to 310 days

*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Nacimiento and similar soils: 50 percent*

*Contra costa and similar soils: 30 percent*

*Minor components: 20 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Nacimiento**

**Setting**

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Parent material: Residuum weathered from sedimentary rock*

**Typical profile**

*H1 - 0 to 10 inches: clay*

*H2 - 10 to 36 inches: clay*

*H3 - 36 to 60 inches: bedrock*

**Properties and qualities**

*Slope: 5 to 15 percent*

*Depth to restrictive feature: 30 to 36 inches to paralithic bedrock*

*Drainage class: Well drained*

*Runoff class: Very high*

*Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Calcium carbonate, maximum content: 20 percent*

*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

*Available water capacity: Low (about 5.6 inches)*

**Interpretive groups**

*Land capability classification (irrigated): 3e*

*Land capability classification (nonirrigated): 3e*

*Hydrologic Soil Group: D*

*Hydric soil rating: No*

**Description of Contra Costa**

**Setting**

*Down-slope shape: Concave*

*Across-slope shape: Linear*

*Parent material: Residuum weathered from sedimentary rock*

**Typical profile**

*H1 - 0 to 5 inches: clay loam*

*H2 - 5 to 21 inches: clay*

*H3 - 21 to 34 inches: channery clay*

*H4 - 34 to 44 inches: bedrock*

**Properties and qualities**

*Slope: 5 to 15 percent*

*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*

*Drainage class: Well drained*

*Runoff class: Very high*

## Custom Soil Resource Report

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Low (about 5.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3e

*Land capability classification (nonirrigated):* 3e

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

### Minor Components

#### Altamont

*Percent of map unit:* 10 percent

*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 10 percent

*Hydric soil rating:* No

## NhD—Nacimiento-Contra Costa association, 15 to 30 percent slopes

### Map Unit Setting

*National map unit symbol:* hdcs

*Elevation:* 200 to 3,800 feet

*Mean annual precipitation:* 9 to 35 inches

*Mean annual air temperature:* 59 to 63 degrees F

*Frost-free period:* 200 to 310 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Nacimiento and similar soils:* 50 percent

*Contra costa and similar soils:* 30 percent

*Minor components:* 20 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Nacimiento

#### Setting

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from sedimentary rock

#### Typical profile

*H1 - 0 to 10 inches:* clay

*H2 - 10 to 36 inches:* clay

*H3 - 36 to 60 inches:* bedrock

## Custom Soil Resource Report

### Properties and qualities

*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 30 to 36 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 20 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Low (about 5.6 inches)

### Interpretive groups

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

## Description of Contra Costa

### Setting

*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Residuum weathered from sedimentary rock

### Typical profile

*H1 - 0 to 5 inches:* clay loam  
*H2 - 5 to 21 inches:* clay  
*H3 - 21 to 34 inches:* channery clay  
*H4 - 34 to 44 inches:* bedrock

### Properties and qualities

*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Low (about 5.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

## Minor Components

### Unnamed

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

**Altamont**

*Percent of map unit: 10 percent*  
*Hydric soil rating: No*

**NhE—Nacimiento-Contra Costa association, 30 to 50 percent slopes**

**Map Unit Setting**

*National map unit symbol: hdct*  
*Elevation: 200 to 3,800 feet*  
*Mean annual precipitation: 9 to 35 inches*  
*Mean annual air temperature: 59 to 63 degrees F*  
*Frost-free period: 200 to 310 days*  
*Farmland classification: Not prime farmland*

**Map Unit Composition**

*Nacimiento and similar soils: 50 percent*  
*Contra costa and similar soils: 30 percent*  
*Minor components: 20 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Nacimiento**

**Setting**

*Down-slope shape: Concave*  
*Across-slope shape: Convex*  
*Parent material: Residuum weathered from sedimentary rock*

**Typical profile**

*H1 - 0 to 10 inches: clay*  
*H2 - 10 to 36 inches: clay*  
*H3 - 36 to 60 inches: bedrock*

**Properties and qualities**

*Slope: 30 to 50 percent*  
*Depth to restrictive feature: 30 to 36 inches to paralithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: Very high*  
*Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Calcium carbonate, maximum content: 20 percent*  
*Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*  
*Available water capacity: Low (about 5.6 inches)*

**Interpretive groups**

*Land capability classification (irrigated): None specified*  
*Land capability classification (nonirrigated): 6e*



## Custom Soil Resource Report

*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### Description of Contra Costa

#### Setting

*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Residuum weathered from sedimentary rock

#### Typical profile

*H1 - 0 to 5 inches:* clay loam  
*H2 - 5 to 21 inches:* clay  
*H3 - 21 to 34 inches:* channery clay  
*H4 - 34 to 44 inches:* bedrock

#### Properties and qualities

*Slope:* 30 to 50 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Low (about 5.0 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### Minor Components

#### Altamont

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

## Rma—Riz silt loam, slightly saline-alkali

#### Map Unit Setting

*National map unit symbol:* hdfp  
*Elevation:* 10 to 400 feet  
*Mean annual precipitation:* 20 inches  
*Mean annual air temperature:* 63 degrees F

## Custom Soil Resource Report

*Frost-free period:* 310 to 320 days

*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Riz and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Riz

#### Setting

*Landform:* Basin floors

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from sedimentary rock

#### Typical profile

*H1 - 0 to 8 inches:* silt loam

*H2 - 8 to 34 inches:* clay

*H3 - 34 to 60 inches:* silty clay loam

#### Properties and qualities

*Slope:* 0 to 1 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Poorly drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* About 24 to 60 inches

*Frequency of flooding:* OccasionalNone

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 10 percent

*Maximum salinity:* Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 10.0

*Available water capacity:* Moderate (about 7.4 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 3w

*Land capability classification (nonirrigated):* 4w

*Hydrologic Soil Group:* D

*Hydric soil rating:* Yes

### Minor Components

#### Willows

*Percent of map unit:* 5 percent

*Landform:* Depressions

*Hydric soil rating:* Yes

#### Hillgate

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### Myers

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

## **Rmb—Riz silt loam, moderately saline-alkali**

### **Map Unit Setting**

*National map unit symbol:* hdfq  
*Elevation:* 10 to 400 feet  
*Mean annual precipitation:* 20 inches  
*Mean annual air temperature:* 63 degrees F  
*Frost-free period:* 310 to 320 days  
*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Riz and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Riz**

#### **Setting**

*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from sedimentary rock

#### **Typical profile**

*H1 - 0 to 8 inches:* silt loam  
*H2 - 8 to 34 inches:* clay  
*H3 - 34 to 60 inches:* silty clay loam

#### **Properties and qualities**

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Poorly drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)  
*Depth to water table:* About 24 to 60 inches  
*Frequency of flooding:* OccasionalNone  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 20.0  
*Available water capacity:* Moderate (about 7.4 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 3w  
*Land capability classification (nonirrigated):* 4w  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* Yes

**Minor Components**

**Willows**

*Percent of map unit:* 5 percent  
*Landform:* Depressions  
*Hydric soil rating:* Yes

**Hillgate**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**Myers**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**Rnc—Riz silty clay loam, strongly saline-alkali**

**Map Unit Setting**

*National map unit symbol:* hdfs  
*Elevation:* 10 to 400 feet  
*Mean annual precipitation:* 20 inches  
*Mean annual air temperature:* 63 degrees F  
*Frost-free period:* 310 to 320 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Riz and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Riz**

**Setting**

*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from sedimentary rock

**Typical profile**

*H1 - 0 to 8 inches:* silty clay loam  
*H2 - 8 to 34 inches:* clay  
*H3 - 34 to 60 inches:* silty clay loam

**Properties and qualities**

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Poorly drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)  
*Depth to water table:* About 24 to 60 inches

## Custom Soil Resource Report

*Frequency of flooding:* OccasionalNone  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Strongly saline (16.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 20.0  
*Available water capacity:* Low (about 4.8 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* 4w  
*Land capability classification (nonirrigated):* 6w  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* Yes

### **Minor Components**

#### **Willows**

*Percent of map unit:* 5 percent  
*Landform:* Depressions  
*Hydric soil rating:* Yes

#### **Myers**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### **Hillgate**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

## **SbC—Sehorn soils, 3 to 15 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 2vf99  
*Elevation:* 100 to 2,000 feet  
*Mean annual precipitation:* 15 to 35 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 200 to 340 days  
*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Sehorn, clay, and similar soils:* 45 percent  
*Sehorn, clay loam, and similar soils:* 40 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Sehorn, Clay**

#### **Setting**

*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sedimentary rock

## Custom Soil Resource Report

### Typical profile

*H1 - 0 to 5 inches: clay*  
*H2 - 5 to 27 inches: clay*  
*H3 - 27 to 41 inches: bedrock*

### Properties and qualities

*Slope: 3 to 15 percent*  
*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: Very high*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Available water capacity: Low (about 4.1 inches)*

### Interpretive groups

*Land capability classification (irrigated): 3e*  
*Land capability classification (nonirrigated): 3e*  
*Hydrologic Soil Group: D*  
*Ecological site: R015XF002CA - Clayey Foothills*  
*Hydric soil rating: No*

## Description of Sehorn, Clay Loam

### Setting

*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Parent material: Residuum weathered from sedimentary rock*

### Typical profile

*H1 - 0 to 5 inches: clay loam*  
*H2 - 5 to 27 inches: clay*  
*H3 - 27 to 41 inches: bedrock*

### Properties and qualities

*Slope: 3 to 15 percent*  
*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: Very high*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Available water capacity: Low (about 4.2 inches)*

### Interpretive groups

*Land capability classification (irrigated): 3e*  
*Land capability classification (nonirrigated): 3e*  
*Hydrologic Soil Group: D*  
*Ecological site: R015XF002CA - Clayey Foothills*  
*Hydric soil rating: No*

### Minor Components

#### Altamont

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Contra costa

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Millsholm

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

### SbD—Sehorn soils, 15 to 30 percent slopes

#### Map Unit Setting

*National map unit symbol:* hdg0  
*Elevation:* 100 to 2,000 feet  
*Mean annual precipitation:* 15 to 35 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 200 to 340 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Sehorn and similar soils:* 45 percent  
*Sehorn and similar soils:* 40 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Sehorn

##### Setting

*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sedimentary rock

##### Typical profile

*H1 - 0 to 5 inches:* clay  
*H2 - 5 to 27 inches:* clay  
*H3 - 27 to 41 inches:* bedrock

##### Properties and qualities

*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches

## Custom Soil Resource Report

*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Low (about 4.1 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### **Description of Sehorn**

#### **Setting**

*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sedimentary rock

#### **Typical profile**

*H1 - 0 to 5 inches:* clay loam  
*H2 - 5 to 27 inches:* clay  
*H3 - 27 to 41 inches:* bedrock

#### **Properties and qualities**

*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Low (about 4.2 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### **Minor Components**

#### **Millsholm**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### **Altamont**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### **Contra costa**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No



## **SbE—Sehorn soils, 30 to 65 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hdg1  
*Elevation:* 100 to 2,000 feet  
*Mean annual precipitation:* 15 to 35 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 200 to 340 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Sehorn and similar soils:* 45 percent  
*Sehorn and similar soils:* 40 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Sehorn**

#### **Setting**

*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from sedimentary rock

#### **Typical profile**

*H1 - 0 to 5 inches:* clay  
*H2 - 5 to 27 inches:* clay  
*H3 - 27 to 41 inches:* bedrock

#### **Properties and qualities**

*Slope:* 30 to 65 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Low (about 4.1 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

## Description of Sehorn

### Setting

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Residuum weathered from sedimentary rock

### Typical profile

*H1 - 0 to 5 inches:* clay loam

*H2 - 5 to 27 inches:* clay

*H3 - 27 to 41 inches:* bedrock

### Properties and qualities

*Slope:* 30 to 65 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Low (about 4.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6e

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

## Minor Components

### Contra costa

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

### Millsholm

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

### Altamont

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

### Rock outcrop

*Percent of map unit:* 2 percent

*Hydric soil rating:* No

## ScE—Sehorn-Gullied land complex, 30 to 50 percent slopes

### Map Unit Setting

*National map unit symbol:* hdg3  
*Elevation:* 100 to 2,000 feet  
*Mean annual precipitation:* 15 to 35 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 200 to 340 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Sehorn and similar soils:* 46 percent  
*Gullied land:* 44 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Sehorn

#### Setting

*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sedimentary rock

#### Typical profile

*H1 - 0 to 5 inches:* clay  
*H2 - 5 to 27 inches:* clay  
*H3 - 27 to 41 inches:* bedrock

#### Properties and qualities

*Slope:* 30 to 50 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Low (about 4.1 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

**Description of Gullied Land**

**Setting**

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Parent material:* Residuum weathered from sedimentary rock

**Typical profile**

*H1 - 0 to 60 inches:* variable

**Properties and qualities**

*Slope:* 30 to 50 percent

*Runoff class:* Very high

*Frequency of flooding:* OccasionalNone

*Available water capacity:* Very low (about 0.0 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydric soil rating:* No

**Minor Components**

**Millsholm**

*Percent of map unit:* 10 percent

*Hydric soil rating:* No

**SdD—Sehorn-Millsholm association, 3 to 30 percent slopes, MLRA 15**

**Map Unit Setting**

*National map unit symbol:* 2y0gb

*Elevation:* 320 to 930 feet

*Mean annual precipitation:* 21 to 24 inches

*Mean annual air temperature:* 60 to 63 degrees F

*Frost-free period:* 264 to 311 days

*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Sehorn and similar soils:* 50 percent

*Millsholm and similar soils:* 40 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Sehorn**

**Setting**

*Landform:* Hillslopes

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

## Custom Soil Resource Report

*Across-slope shape:* Convex

*Parent material:* Slope alluvium derived from sedimentary rock

### Typical profile

*A - 0 to 5 inches:* silty clay loam

*Bss1 - 5 to 13 inches:* clay

*Bss2 - 13 to 27 inches:* clay

*R - 27 to 37 inches:* bedrock

### Properties and qualities

*Slope:* 3 to 30 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.2 to 0.5 mmhos/cm)

*Sodium adsorption ratio, maximum:* 1.0

*Available water capacity:* Low (about 4.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

### Description of Millsholm

#### Setting

*Landform:* Hillslopes

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from sedimentary rock

#### Typical profile

*A - 0 to 1 inches:* silt loam

*Bw - 1 to 6 inches:* silty clay loam

*Bt - 6 to 16 inches:* silty clay loam

*R - 16 to 26 inches:* bedrock

#### Properties and qualities

*Slope:* 3 to 30 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.28 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.3 to 0.5 mmhos/cm)

*Available water capacity:* Low (about 3.1 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

**Minor Components**

**Altamont**

*Percent of map unit:* 10 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* No

**SdE—Sehorn-Millsholm association, 15 to 50 percent slopes, MLRA 15**

**Map Unit Setting**

*National map unit symbol:* 2y0g7  
*Elevation:* 590 to 1,350 feet  
*Mean annual precipitation:* 21 to 24 inches  
*Mean annual air temperature:* 59 to 62 degrees F  
*Frost-free period:* 241 to 309 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Sehorn and similar soils:* 50 percent  
*Millsholm and similar soils:* 40 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Sehorn**

**Setting**

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Slope alluvium derived from sedimentary rock

**Typical profile**

*Oi - 0 to 0 inches:* slightly decomposed plant material  
*A - 0 to 5 inches:* silty clay loam  
*Bss1 - 5 to 13 inches:* clay  
*Bss2 - 13 to 27 inches:* clay  
*R - 27 to 37 inches:* bedrock

## Custom Soil Resource Report

### Properties and qualities

*Slope:* 15 to 50 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.2 to 0.5 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 1.0  
*Available water capacity:* Low (about 4.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XF002CA - Clayey Foothills  
*Hydric soil rating:* No

### Description of Millsholm

#### Setting

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex, concave  
*Across-slope shape:* Convex, concave  
*Parent material:* Residuum weathered from sedimentary rock

#### Typical profile

*A - 0 to 1 inches:* silt loam  
*Bw - 1 to 6 inches:* silty clay loam  
*Bt - 6 to 16 inches:* silty clay loam  
*R - 16 to 26 inches:* bedrock

### Properties and qualities

*Slope:* 15 to 50 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.28 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.3 to 0.5 mmhos/cm)  
*Available water capacity:* Low (about 3.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* D  
*Ecological site:* R015XF004CA - Shallow Loamy Foothills  
*Hydric soil rating:* No

**Minor Components**

**Altamont**

*Percent of map unit:* 10 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave, convex  
*Hydric soil rating:* No

**SeD—Sehorn-Millsholm-Gullied land complex, 5 to 30 percent slopes,  
MLRA 15**

**Map Unit Setting**

*National map unit symbol:* 2y0g9  
*Elevation:* 470 to 990 feet  
*Mean annual precipitation:* 21 to 23 inches  
*Mean annual air temperature:* 60 to 63 degrees F  
*Frost-free period:* 260 to 304 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Sehorn and similar soils:* 45 percent  
*Millsholm and similar soils:* 40 percent  
*Gullied land:* 10 percent  
*Minor components:* 5 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Sehorn**

**Setting**

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Slope alluvium derived from sedimentary rock

**Typical profile**

*A - 0 to 5 inches:* silty clay loam  
*Bss1 - 5 to 13 inches:* clay  
*Bss2 - 13 to 27 inches:* clay  
*R - 27 to 37 inches:* bedrock

**Properties and qualities**

*Slope:* 5 to 30 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock



## Custom Soil Resource Report

*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.2 to 0.5 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 1.0  
*Available water capacity:* Low (about 4.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### Description of Millsholm

#### Setting

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sedimentary rock

#### Typical profile

*A - 0 to 1 inches:* silt loam  
*Bw - 1 to 6 inches:* silty clay loam  
*Bt - 6 to 16 inches:* silty clay loam  
*R - 16 to 26 inches:* bedrock

#### Properties and qualities

*Slope:* 5 to 30 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.28 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.3 to 0.5 mmhos/cm)  
*Available water capacity:* Low (about 3.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### Description of Gullied Land

#### Setting

*Parent material:* Residuum weathered from sedimentary rock

**Properties and qualities**

*Slope:* 5 to 30 percent  
*Runoff class:* Very high  
*Frequency of flooding:* Occasional

**Minor Components**

**Altamont**

*Percent of map unit:* 5 percent  
*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* No

**SeE—Sehorn-Millsholm-Gullied land complex, 10 to 45 percent slopes,  
MLRA 15**

**Map Unit Setting**

*National map unit symbol:* 2y0g8  
*Elevation:* 430 to 1,480 feet  
*Mean annual precipitation:* 21 to 24 inches  
*Mean annual air temperature:* 60 to 62 degrees F  
*Frost-free period:* 251 to 300 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Sehorn and similar soils:* 45 percent  
*Millsholm and similar soils:* 40 percent  
*Gullied land:* 10 percent  
*Minor components:* 5 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Sehorn**

**Setting**

*Landform:* Hillslopes  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Slope alluvium derived from sedimentary rock

**Typical profile**

*A - 0 to 5 inches:* silty clay loam  
*Bss1 - 5 to 13 inches:* clay

## Custom Soil Resource Report

*Bss2 - 13 to 27 inches: clay*  
*R - 27 to 37 inches: bedrock*

### Properties and qualities

*Slope: 10 to 45 percent*  
*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: Very high*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Maximum salinity: Nonsaline (0.2 to 0.5 mmhos/cm)*  
*Sodium adsorption ratio, maximum: 1.0*  
*Available water capacity: Low (about 4.3 inches)*

### Interpretive groups

*Land capability classification (irrigated): None specified*  
*Land capability classification (nonirrigated): 6e*  
*Hydrologic Soil Group: D*  
*Hydric soil rating: No*

## Description of Millsholm

### Setting

*Landform: Hillslopes*  
*Landform position (two-dimensional): Backslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Convex*  
*Across-slope shape: Convex*  
*Parent material: Residuum weathered from sedimentary rock*

### Typical profile

*A - 0 to 1 inches: silt loam*  
*Bw - 1 to 6 inches: silty clay loam*  
*Bt - 6 to 16 inches: silty clay loam*  
*R - 16 to 26 inches: bedrock*

### Properties and qualities

*Slope: 10 to 45 percent*  
*Depth to restrictive feature: 10 to 20 inches to lithic bedrock*  
*Drainage class: Well drained*  
*Runoff class: High*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.28 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Maximum salinity: Nonsaline (0.3 to 0.5 mmhos/cm)*  
*Available water capacity: Low (about 3.1 inches)*

### Interpretive groups

*Land capability classification (irrigated): None specified*  
*Land capability classification (nonirrigated): 6e*  
*Hydrologic Soil Group: D*  
*Hydric soil rating: No*

**Description of Gullied Land**

**Setting**

*Parent material:* Residuum weathered from sedimentary rock

**Properties and qualities**

*Slope:* 10 to 45 percent

*Runoff class:* Very high

*Frequency of flooding:* Occasional

**Minor Components**

**Altamont**

*Percent of map unit:* 5 percent

*Landform:* Hillslopes

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Base slope

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Hydric soil rating:* No

**TcB—Tehama clay loam, 2 to 10 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hdhh

*Elevation:* 80 to 1,800 feet

*Mean annual precipitation:* 12 to 20 inches

*Mean annual air temperature:* 64 degrees F

*Frost-free period:* 200 to 300 days

*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Tehama and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Tehama**

**Setting**

*Landform:* Terraces

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from metamorphic and sedimentary rock

**Typical profile**

*H1 - 0 to 9 inches:* clay loam

*H2 - 9 to 27 inches:* silty clay loam

*H3 - 27 to 60 inches:* silty clay loam

## Custom Soil Resource Report

### Properties and qualities

*Slope:* 2 to 10 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 5 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* High (about 10.8 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2e  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

### Minor Components

#### Hillgate

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Plaza

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Arbuckle

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

## W—Water

### Map Unit Composition

*Water:* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Water

#### Setting

*Landform:* Drainageways  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear

## **Wca—Willows clay, slightly saline-alkali**

### **Map Unit Setting**

*National map unit symbol:* hdj1  
*Elevation:* 0 to 1,700 feet  
*Mean annual precipitation:* 19 inches  
*Mean annual air temperature:* 61 degrees F  
*Frost-free period:* 300 to 315 days  
*Farmland classification:* Farmland of statewide importance

### **Map Unit Composition**

*Willows and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Willows**

#### **Setting**

*Landform:* Basin floors  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from sedimentary rock

#### **Typical profile**

*H1 - 0 to 23 inches:* clay  
*H2 - 23 to 60 inches:* clay

#### **Properties and qualities**

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Poorly drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)  
*Depth to water table:* About 24 to 60 inches  
*Frequency of flooding:* Rare  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Maximum salinity:* Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 5.0  
*Available water capacity:* Moderate (about 6.6 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 3w  
*Land capability classification (nonirrigated):* 3w  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* Yes

### **Minor Components**

#### **Myers**

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

**Plaza**

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

**Willows**

*Percent of map unit: 3 percent*  
*Landform: Basin floors*  
*Hydric soil rating: Yes*

**Capay**

*Percent of map unit: 1 percent*  
*Hydric soil rating: No*

**Riz**

*Percent of map unit: 1 percent*  
*Landform: Basin floors*  
*Hydric soil rating: Yes*

**Yd—Yolo clay loam, moderately deep over clay**

**Map Unit Setting**

*National map unit symbol: hdjk*  
*Elevation: 30 to 400 feet*  
*Mean annual precipitation: 16 to 22 inches*  
*Mean annual air temperature: 61 degrees F*  
*Frost-free period: 295 to 310 days*  
*Farmland classification: Prime farmland if irrigated*

**Map Unit Composition**

*Yolo and similar soils: 85 percent*  
*Minor components: 15 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Yolo**

**Setting**

*Landform: Alluvial fans*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Parent material: Alluvium derived from sedimentary rock*

**Typical profile**

*H1 - 0 to 9 inches: clay loam*  
*H2 - 9 to 32 inches: silty clay loam*  
*H3 - 32 to 60 inches: clay*

**Properties and qualities**

*Slope: 0 to 2 percent*  
*Depth to restrictive feature: 30 inches to abrupt textural change*  
*Drainage class: Well drained*  
*Runoff class: Medium*

## Custom Soil Resource Report

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Low (about 5.7 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* 2s

*Land capability classification (nonirrigated):* 3s

*Hydrologic Soil Group:* C

*Hydric soil rating:* No

### **Minor Components**

#### **Zamora**

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### **Myers**

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### **Hillgate**

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

## **Yh—Yolo clay loam, shallow over clay**

### **Map Unit Setting**

*National map unit symbol:* hdjn

*Elevation:* 30 to 400 feet

*Mean annual precipitation:* 16 to 22 inches

*Mean annual air temperature:* 61 degrees F

*Frost-free period:* 295 to 300 days

*Farmland classification:* Prime farmland if irrigated

### **Map Unit Composition**

*Yolo and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Yolo**

#### **Setting**

*Landform:* Alluvial fans

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from sedimentary rock

#### **Typical profile**

*H1 - 0 to 9 inches:* clay loam



## Custom Soil Resource Report

*H2 - 9 to 20 inches: silty clay loam*

*H3 - 20 to 60 inches: clay*

### **Properties and qualities**

*Slope: 0 to 2 percent*

*Depth to restrictive feature: 20 inches to abrupt textural change*

*Drainage class: Well drained*

*Runoff class: Medium*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Available water capacity: Low (about 3.6 inches)*

### **Interpretive groups**

*Land capability classification (irrigated): 3s*

*Land capability classification (nonirrigated): 3s*

*Hydrologic Soil Group: C*

*Hydric soil rating: No*

### **Minor Components**

#### **Hillgate**

*Percent of map unit: 5 percent*

*Hydric soil rating: No*

#### **Zamora**

*Percent of map unit: 5 percent*

*Hydric soil rating: No*

#### **Myers**

*Percent of map unit: 5 percent*

*Hydric soil rating: No*

## **ZbA—Zamora silty clay loam, 0 to 3 percent slopes, MLRA 17**

### **Map Unit Setting**

*National map unit symbol: 2xcbv*

*Elevation: 70 to 720 feet*

*Mean annual precipitation: 21 to 25 inches*

*Mean annual air temperature: 61 to 62 degrees F*

*Frost-free period: 271 to 319 days*

*Farmland classification: Prime farmland if irrigated*

### **Map Unit Composition**

*Zamora and similar soils: 85 percent*

*Minor components: 15 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Zamora

### Setting

*Landform:* Flood-plain steps, stream terraces

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Silty and clayey alluvium derived from igneous, metamorphic and sedimentary rock

### Typical profile

*Ap - 0 to 6 inches:* silty clay loam

*A - 6 to 11 inches:* silty clay loam

*Bw1 - 11 to 22 inches:* silty clay loam

*Bw2 - 22 to 38 inches:* silty clay loam

*Bw3 - 38 to 60 inches:* silty clay loam

### Properties and qualities

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.43 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* NoneRare

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 2 percent

*Gypsum, maximum content:* 1 percent

*Maximum salinity:* Nonsaline (0.2 to 0.5 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water capacity:* High (about 11.5 inches)

### Interpretive groups

*Land capability classification (irrigated):* 1

*Land capability classification (nonirrigated):* 3c

*Hydrologic Soil Group:* C

*Hydric soil rating:* No

## Minor Components

### Hillgate

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

### Yolo

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

### Marvin

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

### Myers

*Percent of map unit:* 2 percent

*Hydric soil rating:* No

## **ZbB—Zamora silty clay loam, 2 to 8 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hdjv  
*Elevation:* 30 to 400 feet  
*Mean annual precipitation:* 16 to 22 inches  
*Mean annual air temperature:* 61 degrees F  
*Frost-free period:* 280 to 290 days  
*Farmland classification:* Prime farmland if irrigated

### **Map Unit Composition**

*Zamora and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Zamora**

#### **Setting**

*Landform:* Alluvial fans  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from sedimentary rock

#### **Typical profile**

*H1 - 0 to 11 inches:* silty clay loam  
*H2 - 11 to 60 inches:* silty clay loam

#### **Properties and qualities**

*Slope:* 2 to 8 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.57 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 5 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* High (about 10.8 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 2e  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* B  
*Hydric soil rating:* No

**Minor Components**

**Myers**

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

**Marvin**

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

**Yolo**

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

# References

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