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States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for Anza-Borrego Area, California, and San Diego County Area, California

**Flat\_Creek\_Watershed\_AGWA**



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

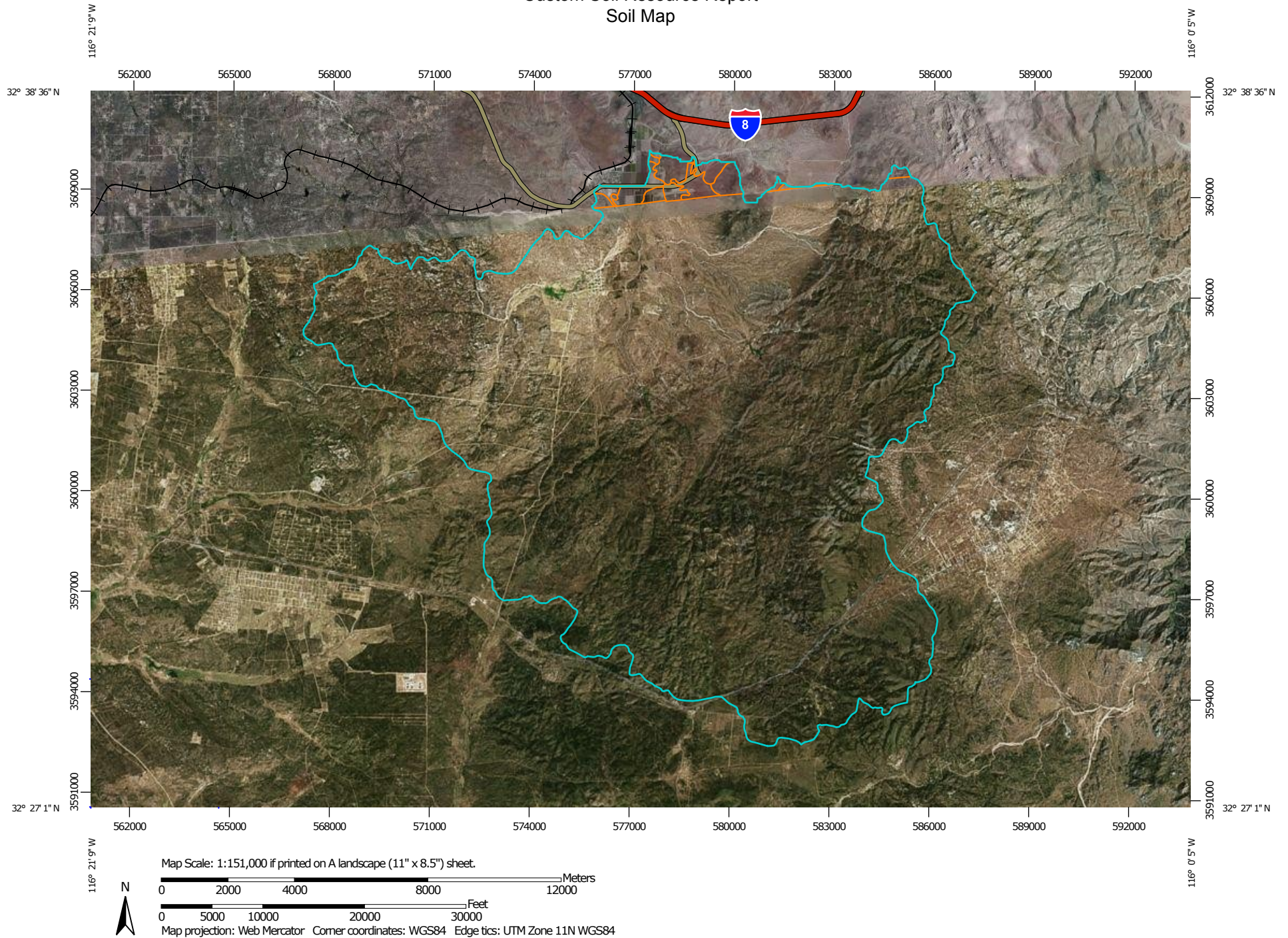
# Soil Map

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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






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## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot


 Landfill

 Lava Flow

 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


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals


### Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 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: <http://websoilsurvey.nrcs.usda.gov>  
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: Anza-Borrego Area, California  
Survey Area Data: Version 1, Dec 13, 2013

Soil Survey Area: San Diego County Area, California  
Survey Area Data: Version 8, Sep 17, 2014

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—Jun 7, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Anza-Borrego Area, California (CA804)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
NOTCOM	No Digital Data Available	42.4	0.1%
<b>Subtotals for Soil Survey Area</b>		<b>42.4</b>	<b>0.1%</b>
<b>Totals for Area of Interest</b>		<b>52,400.8</b>	<b>100.0%</b>

San Diego County Area, California (CA638)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AcG	Acid igneous rock land	0.4	0.0%
CeC	Carrizo very gravelly sand, 0 to 9 percent slopes	2.0	0.0%
InA	Indio silt loam, 0 to 2 percent slopes	63.1	0.1%
InB	Indio silt loam, 2 to 5 percent slopes	79.0	0.2%
IoA	Indio silt loam, saline, 0 to 2 percent slopes	14.8	0.0%
LcE2	La Posta rocky loamy coarse sand, 5 to 30 percent slope s, eroded	43.8	0.1%
MnB	Mecca coarse sandy loam, 2 to 5 percent slopes	12.8	0.0%
RaC	Ramona sandy loam, 5 to 9 percent slopes	157.5	0.3%
RaD2	Ramona sandy loam, 9 to 15 percent slopes, eroded	6.5	0.0%
RkA	Reiff fine sandy loam, 0 to 2 percent slopes	171.1	0.3%
RsC	Rositas loamy coarse sand, 2 to 9 percent slopes	60.6	0.1%
SrD	Sloping gullied land	126.0	0.2%
SvE	Stony land	320.5	0.6%
<b>Subtotals for Soil Survey Area</b>		<b>1,058.0</b>	<b>2.0%</b>
<b>Totals for Area of Interest</b>		<b>52,400.8</b>	<b>100.0%</b>

## 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.

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

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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.

## **Anza-Borrego Area, California**

### **NOTCOM—No Digital Data Available**

#### **Map Unit Composition**

*Notcom:* 100 percent

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

#### **Description of Notcom**

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



## San Diego County Area, California

### AcG—Acid igneous rock land

#### Map Unit Setting

*National map unit symbol:* hb7x  
*Elevation:* 650 to 4,000 feet  
*Mean annual precipitation:* 8 to 15 inches  
*Mean annual air temperature:* 45 to 52 degrees F  
*Frost-free period:* 110 to 180 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Acid igneous rock land:* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Acid Igneous Rock Land

#### Setting

*Landform:* Mountains  
*Landform position (three-dimensional):* Mountainflank  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Acid igneous rock

#### Typical profile

*H1 - 0 to 4 inches:* unweathered bedrock

#### Properties and qualities

*Slope:* 15 to 75 percent  
*Depth to restrictive feature:* 0 to 4 inches to lithic bedrock  
*Runoff class:* Very high

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 8  
*Hydrologic Soil Group:* D

### CeC—Carrizo very gravelly sand, 0 to 9 percent slopes

#### Map Unit Setting

*National map unit symbol:* hb9g  
*Elevation:* 500 to 2,500 feet  
*Mean annual precipitation:* 5 to 10 inches  
*Mean annual air temperature:* 70 to 73 degrees F  
*Frost-free period:* 240 to 350 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Carrizo and similar soils:* 85 percent  
*Minor components:* 11 percent

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

### Description of Carrizo

#### Setting

*Landform:* Alluvial fans

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Base slope, rise

*Down-slope shape:* Linear

*Across-slope shape:* Convex

*Parent material:* Alluvium derived from granite

#### Typical profile

*H1 - 0 to 8 inches:* very gravelly sand

*H2 - 8 to 60 inches:* very gravelly coarse sand, very gravelly sand

*H2 - 8 to 60 inches:*

#### Properties and qualities

*Slope:* 0 to 9 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Excessively drained

*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* Very high (19.98 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* Rare

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 5 percent

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)

*Available water storage in profile:* Low (about 3.4 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* A

*Ecological site:* Sandy fan 5-7" p.z. (R030XA008CA)

### Minor Components

#### Mecca

*Percent of map unit:* 5 percent

#### Rositas

*Percent of map unit:* 5 percent

#### Unnamed

*Percent of map unit:* 1 percent

*Landform:* Flood plains

### InA—Indio silt loam, 0 to 2 percent slopes

#### Map Unit Setting

*National map unit symbol:* hbcv

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*Elevation:* 300 feet  
*Mean annual precipitation:* 4 inches  
*Mean annual air temperature:* 72 degrees F  
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

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

### Description of Indio

#### Setting

*Landform:* Alluvial fans  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Base slope, rise  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Parent material:* Alluvium derived from igneous rock and mica schist

#### Typical profile

*H1 - 0 to 6 inches:* silt loam  
*H2 - 6 to 60 inches:* stratified fine sandy loam to silt loam

#### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Low  
*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 in profile:* 5 percent  
*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)  
*Available water storage in profile:* High (about 10.8 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 1  
*Land capability classification (nonirrigated):* 3c  
*Hydrologic Soil Group:* B

### Minor Components

#### Mecca

*Percent of map unit:* 5 percent

#### Rositas

*Percent of map unit:* 5 percent

#### Carrizo

*Percent of map unit:* 5 percent

## **InB—Indio silt loam, 2 to 5 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hbcw

*Elevation:* 300 feet

*Mean annual precipitation:* 4 inches

*Mean annual air temperature:* 72 degrees F

*Farmland classification:* Prime farmland if irrigated

### **Map Unit Composition**

*Indio and similar soils:* 85 percent

*Minor components:* 15 percent

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

### **Description of Indio**

#### **Setting**

*Landform:* Alluvial fans

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Base slope, rise

*Down-slope shape:* Linear

*Across-slope shape:* Convex

*Parent material:* Alluvium derived from igneous rock and mica schist

#### **Typical profile**

*H1 - 0 to 6 inches:* silt loam

*H2 - 6 to 60 inches:* stratified fine sandy loam to silt loam

#### **Properties and qualities**

*Slope:* 2 to 5 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Well drained

*Runoff class:* Low

*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 in profile:* 5 percent

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)

*Available water storage in profile:* High (about 10.8 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 2e

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* B

**Minor Components**

**Mecca**

*Percent of map unit: 5 percent*

**Rositas**

*Percent of map unit: 5 percent*

**Carrizo**

*Percent of map unit: 5 percent*

**loA—Indio silt loam, saline, 0 to 2 percent slopes**

**Map Unit Setting**

*National map unit symbol: hbcx*

*Elevation: 80 to 600 feet*

*Mean annual precipitation: 2 to 4 inches*

*Mean annual air temperature: 72 to 75 degrees F*

*Frost-free period: 250 to 365 days*

*Farmland classification: Farmland of statewide importance*

**Map Unit Composition**

*Indio and similar soils: 85 percent*

*Minor components: 15 percent*

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

**Description of Indio**

**Setting**

*Landform: Alluvial fans*

*Landform position (two-dimensional): Toeslope*

*Landform position (three-dimensional): Base slope, rise*

*Down-slope shape: Linear*

*Across-slope shape: Convex*

*Parent material: Alluvium derived from igneous rock and mica schist*

**Typical profile**

*H1 - 0 to 6 inches: silt loam*

*H2 - 6 to 60 inches: stratified fine sandy loam to silt loam*

**Properties and qualities**

*Slope: 0 to 2 percent*

*Depth to restrictive feature: More than 80 inches*

*Natural drainage class: Moderately well drained*

*Runoff class: Low*

*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 in profile: 5 percent*



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*Salinity, maximum in profile:* Very slightly saline to moderately saline (4.0 to 16.0 mmhos/cm)

*Available water storage in profile:* Low (about 6.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3s

*Land capability classification (nonirrigated):* 6s

*Hydrologic Soil Group:* B

*Ecological site:* Alkali flats (R030XG019CA)

### Minor Components

#### Carrizo

*Percent of map unit:* 5 percent

#### Mecca

*Percent of map unit:* 5 percent

#### Rositas

*Percent of map unit:* 3 percent

#### Unnamed

*Percent of map unit:* 2 percent

*Landform:* Playas

## LcE2—La Posta rocky loamy coarse sand, 5 to 30 percent slope s, eroded

### Map Unit Setting

*National map unit symbol:* hbd4

*Elevation:* 650 to 4,500 feet

*Mean annual precipitation:* 8 to 20 inches

*Mean annual air temperature:* 45 to 55 degrees F

*Frost-free period:* 110 to 225 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*La posta and similar soils:* 85 percent

*Minor components:* 15 percent

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

### Description of La Posta

#### Setting

*Landform:* Mountains

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Mountainflank

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Parent material:* Residuum weathered from granodiorite

#### Typical profile

*H1 - 0 to 8 inches:* loamy coarse sand

## Custom Soil Resource Report

*H2 - 8 to 27 inches:* gravelly loamy coarse sand, loamy sand, loamy coarse sand

*H2 - 8 to 27 inches:* weathered bedrock

*H2 - 8 to 27 inches:*

*H3 - 27 to 31 inches:*

### Properties and qualities

*Slope:* 5 to 30 percent

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

*Natural drainage class:* Somewhat excessively drained

*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* High to very high (5.95 to 19.98 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water storage in profile:* Low (about 4.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6e

*Hydrologic Soil Group:* A

*Ecological site:* Granitic (R020XD028CA)

### Minor Components

#### Rock outcrop

*Percent of map unit:* 5 percent

#### Kitchen creek

*Percent of map unit:* 5 percent

#### Tollhouse

*Percent of map unit:* 5 percent

## MnB—Mecca coarse sandy loam, 2 to 5 percent slopes

### Map Unit Setting

*National map unit symbol:* hbf2

*Elevation:* 200 to 2,000 feet

*Mean annual precipitation:* 5 inches

*Mean annual air temperature:* 72 degrees F

*Frost-free period:* 220 to 260 days

*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Mecca and similar soils:* 85 percent

*Minor components:* 15 percent

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

## **Description of Mecca**

### **Setting**

*Landform:* Alluvial fans  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Base slope, rise  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Parent material:* Alluvium derived from granite

### **Typical profile**

*H1 - 0 to 10 inches:* coarse sandy loam  
*H2 - 10 to 62 inches:* coarse sandy loam

### **Properties and qualities**

*Slope:* 2 to 5 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* 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:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 5 percent  
*Salinity, maximum in profile:* Nonsaline (0.0 to 2.0 mmhos/cm)  
*Available water storage in profile:* Low (about 6.0 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* 2e  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* A  
*Ecological site:* Loamy (R030XG018CA)

## **Minor Components**

### **Rositas**

*Percent of map unit:* 5 percent

### **Carrizo**

*Percent of map unit:* 5 percent

### **Indio**

*Percent of map unit:* 5 percent

## **RaC—Ramona sandy loam, 5 to 9 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hbfs  
*Elevation:* 250 to 3,500 feet  
*Mean annual precipitation:* 10 to 20 inches  
*Mean annual air temperature:* 63 degrees F

## Custom Soil Resource Report

*Frost-free period:* 230 to 320 days

*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Ramona and similar soils:* 85 percent

*Minor components:* 15 percent

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

### Description of Ramona

#### Setting

*Landform:* Alluvial fans

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Base slope, rise

*Down-slope shape:* Linear

*Across-slope shape:* Convex

*Parent material:* Alluvium derived from granite

#### Typical profile

*H1 - 0 to 17 inches:* sandy loam

*H2 - 17 to 60 inches:* sandy clay loam, clay loam

*H2 - 17 to 60 inches:* sandy clay loam, sandy loam

*H3 - 60 to 74 inches:*

*H3 - 60 to 74 inches:*

#### Properties and qualities

*Slope:* 5 to 9 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Well drained

*Runoff class:* High

*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:* None

*Frequency of ponding:* None

*Available water storage in profile:* Very high (about 14.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 3e

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* C

*Ecological site:* Loamy (1975) (R019XD029CA)

### Minor Components

#### Greenfield

*Percent of map unit:* 5 percent

#### Placentia

*Percent of map unit:* 5 percent

#### Fallbrook

*Percent of map unit:* 5 percent

## **RaD2—Ramona sandy loam, 9 to 15 percent slopes, eroded**

### **Map Unit Setting**

*National map unit symbol:* hbfv  
*Elevation:* 250 to 3,500 feet  
*Mean annual precipitation:* 10 to 20 inches  
*Mean annual air temperature:* 63 degrees F  
*Frost-free period:* 230 to 320 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

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

### **Description of Ramona**

#### **Setting**

*Landform:* Alluvial fans  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Base slope, rise  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Parent material:* Alluvium derived from granite

#### **Typical profile**

*H1 - 0 to 10 inches:* sandy loam  
*H2 - 10 to 60 inches:* sandy clay loam, clay loam  
*H2 - 10 to 60 inches:* sandy clay loam, sandy loam  
*H3 - 60 to 74 inches:*  
*H3 - 60 to 74 inches:*

#### **Properties and qualities**

*Slope:* 9 to 15 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* High  
*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:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Very high (about 16.2 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* C  
*Ecological site:* Loamy (1975) (R019XD029CA)



**Minor Components**

**Greenfield**

*Percent of map unit: 5 percent*

**Placentia**

*Percent of map unit: 5 percent*

**Fallbrook**

*Percent of map unit: 5 percent*

**RkA—Reiff fine sandy loam, 0 to 2 percent slopes**

**Map Unit Setting**

*National map unit symbol: hbg3*

*Elevation: 30 to 500 feet*

*Mean annual precipitation: 10 to 20 inches*

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

*Frost-free period: 240 to 275 days*

*Farmland classification: Prime farmland if irrigated*

**Map Unit Composition**

*Reiff and similar soils: 85 percent*

*Minor components: 15 percent*

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

**Description of Reiff**

**Setting**

*Landform: Alluvial fans*

*Landform position (two-dimensional): Toeslope*

*Landform position (three-dimensional): Base slope, rise*

*Down-slope shape: Linear*

*Across-slope shape: Convex*

*Parent material: Alluvium derived from granite*

**Typical profile**

*H1 - 0 to 14 inches: fine sandy loam*

*H2 - 14 to 43 inches: stratified sandy loam to loam*

*H3 - 43 to 60 inches: stratified sandy loam to loam*

**Properties and qualities**

*Slope: 0 to 2 percent*

*Depth to restrictive feature: More than 80 inches*

*Natural drainage class: 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: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Salinity, maximum in profile: Nonsaline (0.0 to 2.0 mmhos/cm)*

## Custom Soil Resource Report

*Available water storage in profile:* Moderate (about 8.6 inches)

### Interpretive groups

*Land capability classification (irrigated):* 1

*Land capability classification (nonirrigated):* 3c

*Hydrologic Soil Group:* A

### Minor Components

#### Visalia

*Percent of map unit:* 5 percent

#### Ramona

*Percent of map unit:* 5 percent

#### Plecentia

*Percent of map unit:* 5 percent

## RsC—Rositas loamy coarse sand, 2 to 9 percent slopes

### Map Unit Setting

*National map unit symbol:* hbgb

*Elevation:* 500 feet

*Mean annual precipitation:* 2 to 4 inches

*Mean annual air temperature:* 72 degrees F

*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Rositas and similar soils:* 85 percent

*Minor components:* 15 percent

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

### Description of Rositas

#### Setting

*Landform:* Alluvial fans

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Base slope, rise

*Down-slope shape:* Linear

*Across-slope shape:* Convex

*Parent material:* Alluvium derived from granite

#### Typical profile

*H1 - 0 to 5 inches:* loamy coarse sand

*H2 - 5 to 60 inches:* gravelly loamy sand, sand

*H2 - 5 to 60 inches:*

#### Properties and qualities

*Slope:* 2 to 9 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Somewhat excessively drained

*Runoff class:* Very low

## Custom Soil Resource Report

*Capacity of the most limiting layer to transmit water (Ksat):* High to very high (5.95 to 19.98 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 5 percent

*Salinity, maximum in profile:* Nonsaline to very slightly saline (2.0 to 4.0 mmhos/cm)

*Available water storage in profile:* Moderate (about 8.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3s

*Land capability classification (nonirrigated):* 6s

*Hydrologic Soil Group:* A

*Ecological site:* Sandy fan 5-7" p.z. (R030XA008CA)

### Minor Components

#### Carrizo

*Percent of map unit:* 5 percent

#### Mecca

*Percent of map unit:* 5 percent

#### Indio

*Percent of map unit:* 5 percent

## SrD—Sloping gullied land

### Map Unit Composition

*Sloping gullied land:* 85 percent

*Minor components:* 1 percent

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

### Description of Sloping Gullied Land

#### Setting

*Landform:* Gullies

*Landform position (three-dimensional):* Riser

#### Typical profile

*H1 - 0 to 60 inches:* variable

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

### Minor Components

#### Unnamed

*Percent of map unit:* 1 percent

*Landform:* Drainageways

## **SvE—Stony land**

### **Map Unit Setting**

*National map unit symbol:* hbgv

*Elevation:* 650 to 4,000 feet

*Mean annual precipitation:* 8 to 15 inches

*Mean annual air temperature:* 45 to 52 degrees F

*Frost-free period:* 110 to 180 days

*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Stony land:* 100 percent

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

### **Description of Stony Land**

#### **Setting**

*Landform:* Mountains

*Landform position (three-dimensional):* Mountainflank

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Parent material:* Mixed colluvium

#### **Typical profile**

*H1 - 0 to 60 inches:* unweathered bedrock

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydrologic Soil Group:* A

# **Soil Information for All Uses**

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## **Soil Properties and Qualities**

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

## **Soil Erosion Factors**

Soil Erosion Factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

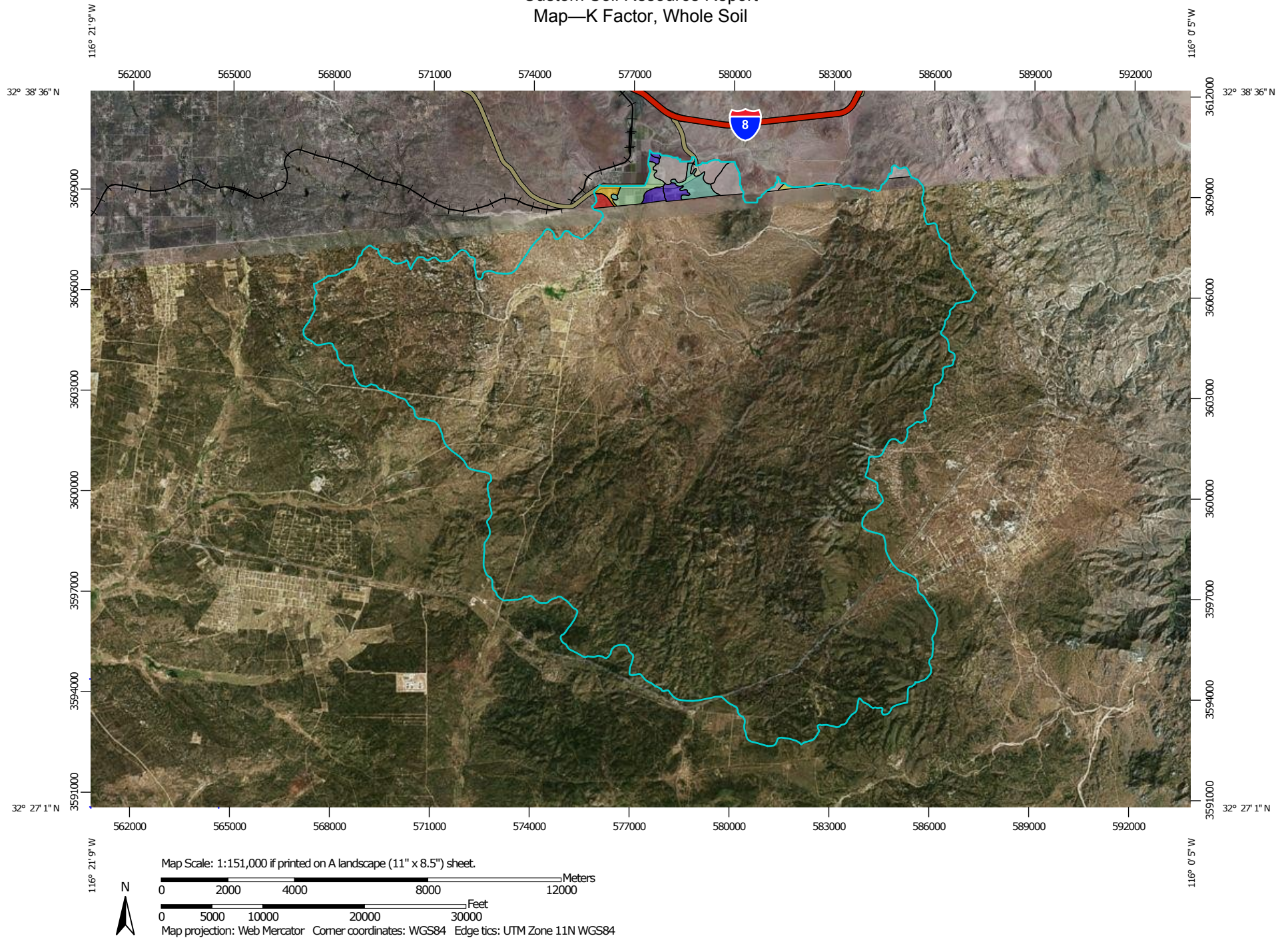
### **K Factor, Whole Soil**

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.




# Custom Soil Resource Report Map—K Factor, Whole Soil



# Custom Soil Resource Report
















## MAP LEGEND

### Area of Interest (AOI)







 Area of Interest (AOI)










### Soils

#### Soil Rating Polygons
















	.02
	.05
	.10
	.15
	.17
	.20
	.24
	.28
	.32
	.37
	.43
	.49
	.55
	.64
	Not rated or not available

#### Soil Rating Lines








	.02
	.05
	.10
	.15
	.17
	.20

	.24
	.28
	.32
	.37
	.43
	.49
	.55
	.64
	Not rated or not available

#### Soil Rating Points

	.02
	.05
	.10
	.15
	.17
	.20
	.24
	.28
	.32
	.37
	.43
	.49
	.55
	.64
	Not rated or not available

#### Water Features

	Streams and Canals
	Rails
	Interstate Highways
	US Routes
	Major Roads
	Local Roads
	Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 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: <http://websoilsurvey.nrcs.usda.gov>  
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: Anza-Borrego Area, California  
Survey Area Data: Version 1, Dec 13, 2013

Soil Survey Area: San Diego County Area, California  
Survey Area Data: Version 8, Sep 17, 2014

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—Jun 7, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

**Table—K Factor, Whole Soil**

<b>K Factor, Whole Soil— Summary by Map Unit — Anza-Borrego Area, California (CA804)</b>				
<b>Map unit symbol</b>	<b>Map unit name</b>	<b>Rating</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
NOTCOM	No Digital Data Available		42.4	0.1%
<b>Subtotals for Soil Survey Area</b>			<b>42.4</b>	<b>0.1%</b>
<b>Totals for Area of Interest</b>			<b>52,400.8</b>	<b>100.0%</b>

<b>K Factor, Whole Soil— Summary by Map Unit — San Diego County Area, California (CA638)</b>				
<b>Map unit symbol</b>	<b>Map unit name</b>	<b>Rating</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
AcG	Acid igneous rock land		0.4	0.0%
CeC	Carrizo very gravelly sand, 0 to 9 percent slopes	.02	2.0	0.0%
InA	Indio silt loam, 0 to 2 percent slopes	.55	63.1	0.1%
InB	Indio silt loam, 2 to 5 percent slopes	.55	79.0	0.2%
IoA	Indio silt loam, saline, 0 to 2 percent slopes	.55	14.8	0.0%
LcE2	La Posta rocky loamy coarse sand, 5 to 30 percent slopes, eroded	.02	43.8	0.1%
MnB	Mecca coarse sandy loam, 2 to 5 percent slopes	.20	12.8	0.0%
RaC	Ramona sandy loam, 5 to 9 percent slopes	.32	157.5	0.3%
RaD2	Ramona sandy loam, 9 to 15 percent slopes, eroded	.32	6.5	0.0%
RkA	Reiff fine sandy loam, 0 to 2 percent slopes	.28	171.1	0.3%
RsC	Rositas loamy coarse sand, 2 to 9 percent slopes	.15	60.6	0.1%
SrD	Sloping gullied land		126.0	0.2%
SvE	Stony land		320.5	0.6%
<b>Subtotals for Soil Survey Area</b>			<b>1,058.0</b>	<b>2.0%</b>
<b>Totals for Area of Interest</b>			<b>52,400.8</b>	<b>100.0%</b>

**Rating Options—K Factor, Whole Soil***Aggregation Method: Dominant Condition**Component Percent Cutoff: None Specified**Tie-break Rule: Higher*

*Layer Options (Horizon Aggregation Method):* Surface Layer (Not applicable)

## Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

## Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

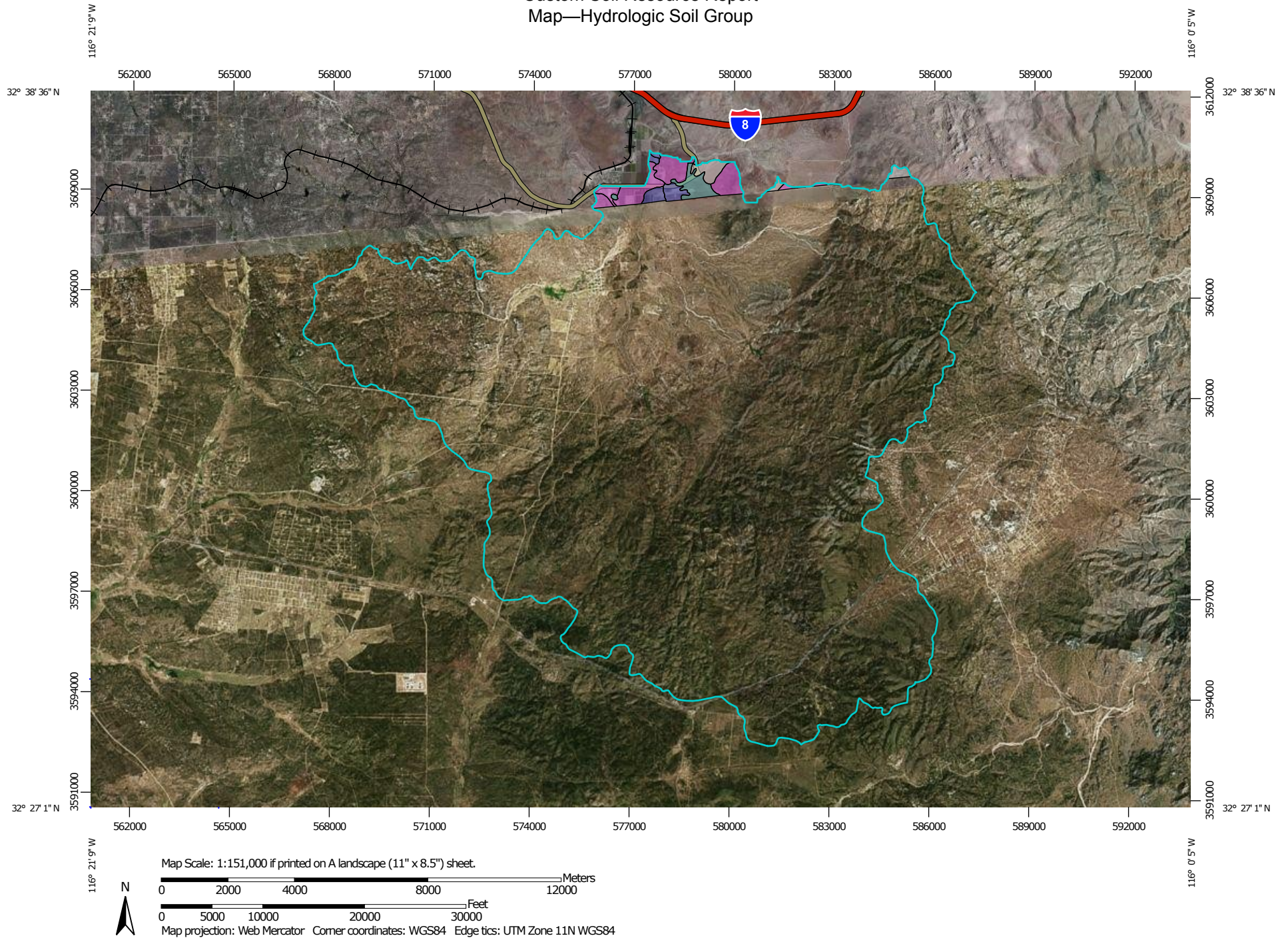
Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



# Custom Soil Resource Report Map—Hydrologic Soil Group



## MAP LEGEND

### Area of Interest (AOI)









 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons





 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Lines


 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Points






 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available


### Water Features

 Streams and Canals

### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
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Soil Survey Area: Anza-Borrego Area, California  
 Survey Area Data: Version 1, Dec 13, 2013

Soil Survey Area: San Diego County Area, California  
 Survey Area Data: Version 8, Sep 17, 2014

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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—Jun 7, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

**Table—Hydrologic Soil Group**

Hydrologic Soil Group— Summary by Map Unit — Anza-Borrego Area, California (CA804)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
NOTCOM	No Digital Data Available		42.4	0.1%
<b>Subtotals for Soil Survey Area</b>			<b>42.4</b>	<b>0.1%</b>
<b>Totals for Area of Interest</b>			<b>52,400.8</b>	<b>100.0%</b>

Hydrologic Soil Group— Summary by Map Unit — San Diego County Area, California (CA638)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AcG	Acid igneous rock land	D	0.4	0.0%
CeC	Carrizo very gravelly sand, 0 to 9 percent slopes	A	2.0	0.0%
InA	Indio silt loam, 0 to 2 percent slopes	B	63.1	0.1%
InB	Indio silt loam, 2 to 5 percent slopes	B	79.0	0.2%
IoA	Indio silt loam, saline, 0 to 2 percent slopes	B	14.8	0.0%
LcE2	La Posta rocky loamy coarse sand, 5 to 30 percent slopes, eroded	A	43.8	0.1%
MnB	Mecca coarse sandy loam, 2 to 5 percent slopes	A	12.8	0.0%
RaC	Ramona sandy loam, 5 to 9 percent slopes	C	157.5	0.3%
RaD2	Ramona sandy loam, 9 to 15 percent slopes, eroded	C	6.5	0.0%
RkA	Reiff fine sandy loam, 0 to 2 percent slopes	A	171.1	0.3%
RsC	Rositas loamy coarse sand, 2 to 9 percent slopes	A	60.6	0.1%
SrD	Sloping gullied land		126.0	0.2%
SvE	Stony land	A	320.5	0.6%
<b>Subtotals for Soil Survey Area</b>			<b>1,058.0</b>	<b>2.0%</b>
<b>Totals for Area of Interest</b>			<b>52,400.8</b>	<b>100.0%</b>

**Rating Options—Hydrologic Soil Group***Aggregation Method: Dominant Condition**Component Percent Cutoff: None Specified**Tie-break Rule: Higher*

## **Parent Material Name**

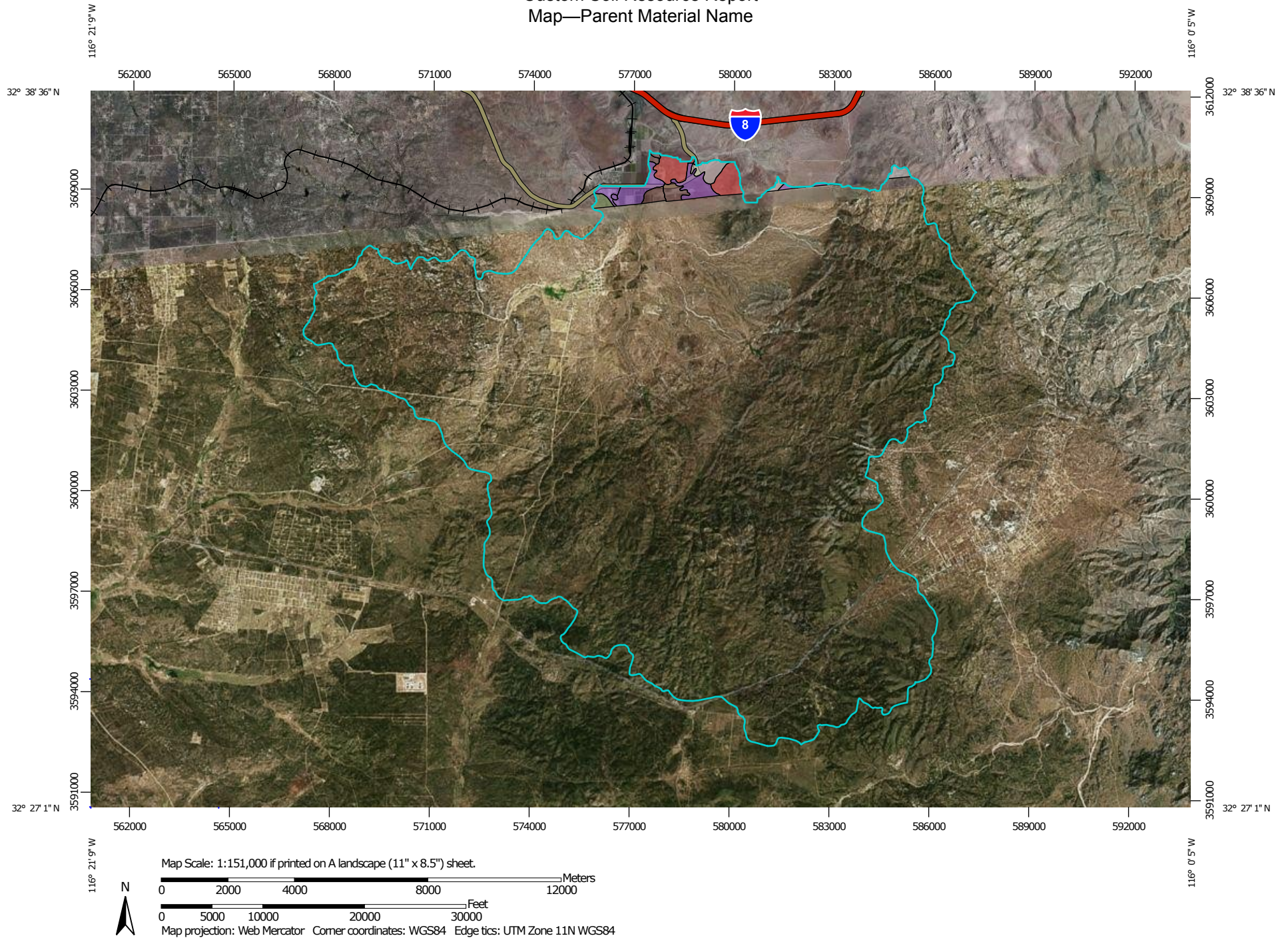
Parent material name is a term for the general physical, chemical, and mineralogical composition of the unconsolidated material, mineral or organic, in which the soil forms. Mode of deposition and/or weathering may be implied by the name.

The soil surveyor uses parent material to develop a model used for soil mapping. Soil scientists and specialists in other disciplines use parent material to help interpret soil boundaries and project performance of the material below the soil. Many soil properties relate to parent material. Among these properties are proportions of sand, silt, and clay; chemical content; bulk density; structure; and the kinds and amounts of rock fragments. These properties affect interpretations and may be criteria used to separate soil series. Soil properties and landscape information may imply the kind of parent material.

For each soil in the database, one or more parent materials may be identified. One is marked as the representative or most commonly occurring. The representative parent material name is presented here.




# Custom Soil Resource Report Map—Parent Material Name















## MAP LEGEND

### Area of Interest (AOI)





 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons


- |   |  |   |  |
|---|--|---|--|
|  | acid igneous rock                                  |  | acid igneous rock                                  |
|  | alluvium derived from granite                      |  | alluvium derived from granite                      |
|  | alluvium derived from igneous rock and mica schist |  | alluvium derived from igneous rock and mica schist |
|  | mixed colluvium                                    |  | mixed colluvium                                    |
|  | residuum weathered from granodiorite               |  | residuum weathered from granodiorite               |
|  | Not rated or not available                         |  | Not rated or not available                         |

#### Soil Rating Lines






- |   |  |
|---|--|
|    | acid igneous rock                                  |
|    | alluvium derived from granite                      |
|    | alluvium derived from igneous rock and mica schist |
|    | mixed colluvium                                    |
|   | residuum weathered from granodiorite               |
|  | Not rated or not available                         |

#### Soil Rating Points


### Water Features

 Streams and Canals

### Transportation

- |   |                     |
|---|---------------------|
|  | Rails               |
|  | Interstate Highways |
|  | US Routes           |
|  | Major Roads         |
|  | Local Roads         |

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 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: <http://websoilsurvey.nrcs.usda.gov>  
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: Anza-Borrego Area, California  
Survey Area Data: Version 1, Dec 13, 2013

Soil Survey Area: San Diego County Area, California  
Survey Area Data: Version 8, Sep 17, 2014

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—Jun 7, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

**Table—Parent Material Name**

Parent Material Name— Summary by Map Unit — Anza-Borrego Area, California (CA804)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
NOTCOM	No Digital Data Available		42.4	0.1%
<b>Subtotals for Soil Survey Area</b>			<b>42.4</b>	<b>0.1%</b>
<b>Totals for Area of Interest</b>			<b>52,400.8</b>	<b>100.0%</b>

Parent Material Name— Summary by Map Unit — San Diego County Area, California (CA638)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AcG	Acid igneous rock land	acid igneous rock	0.4	0.0%
CeC	Carrizo very gravelly sand, 0 to 9 percent slopes	alluvium derived from granite	2.0	0.0%
InA	Indio silt loam, 0 to 2 percent slopes	alluvium derived from igneous rock and mica schist	63.1	0.1%
InB	Indio silt loam, 2 to 5 percent slopes	alluvium derived from igneous rock and mica schist	79.0	0.2%
IoA	Indio silt loam, saline, 0 to 2 percent slopes	alluvium derived from igneous rock and mica schist	14.8	0.0%
LcE2	La Posta rocky loamy coarse sand, 5 to 30 percent slopes, eroded	residuum weathered from granodiorite	43.8	0.1%
MnB	Mecca coarse sandy loam, 2 to 5 percent slopes	alluvium derived from granite	12.8	0.0%
RaC	Ramona sandy loam, 5 to 9 percent slopes	alluvium derived from granite	157.5	0.3%
RaD2	Ramona sandy loam, 9 to 15 percent slopes, eroded	alluvium derived from granite	6.5	0.0%
RkA	Reiff fine sandy loam, 0 to 2 percent slopes	alluvium derived from granite	171.1	0.3%
RsC	Rositas loamy coarse sand, 2 to 9 percent slopes	alluvium derived from granite	60.6	0.1%
SrD	Sloping gullied land		126.0	0.2%
SvE	Stony land	mixed colluvium	320.5	0.6%
<b>Subtotals for Soil Survey Area</b>			<b>1,058.0</b>	<b>2.0%</b>
<b>Totals for Area of Interest</b>			<b>52,400.8</b>	<b>100.0%</b>

### Rating Options—Parent Material Name

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff: None Specified*

*Tie-break Rule: Lower*

## **Depth to Any Soil Restrictive Layer**

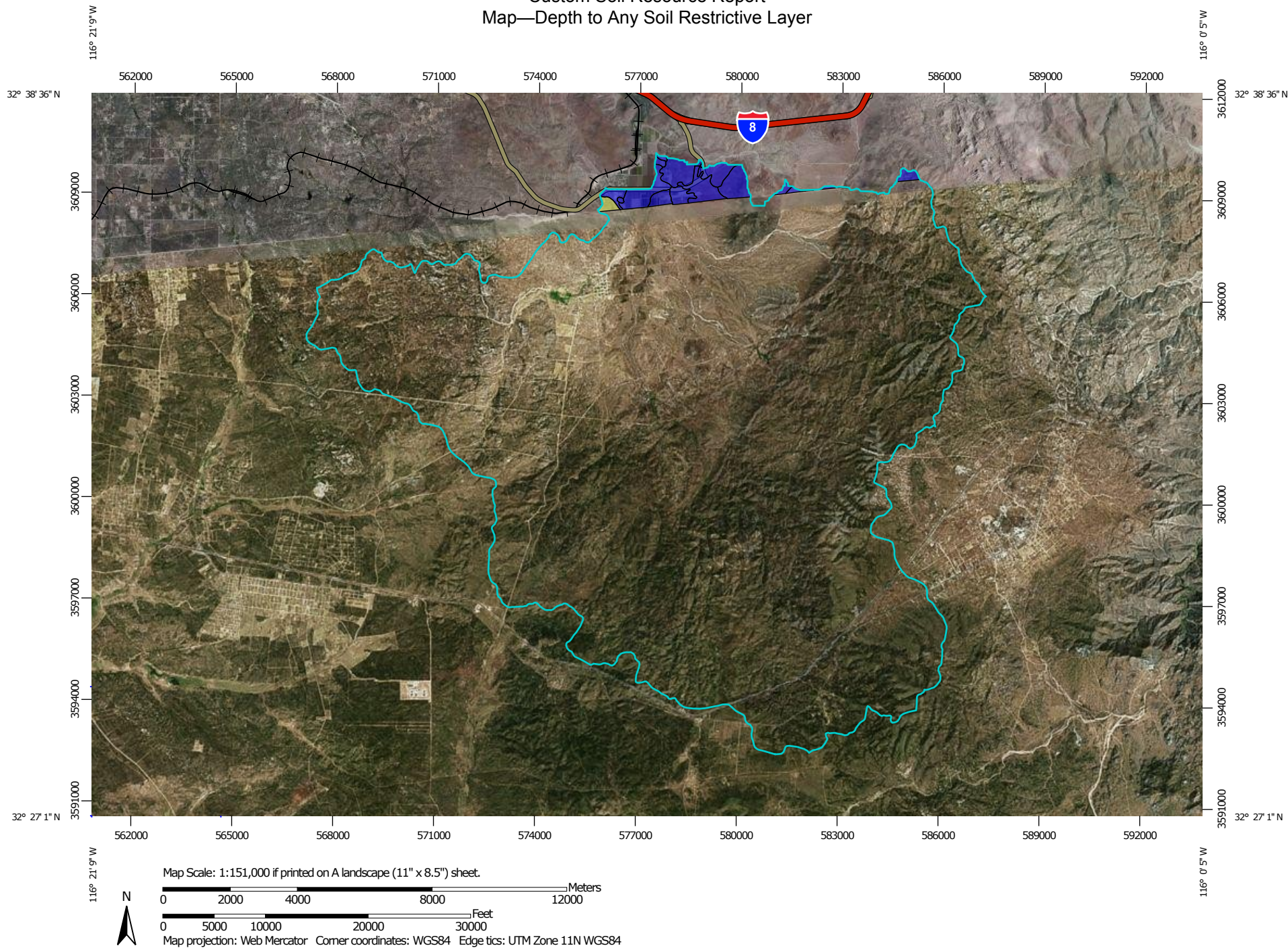
A "restrictive layer" is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers.

This theme presents the depth to any type of restrictive layer that is described for each map unit. If more than one type of restrictive layer is described for an individual soil type, the depth to the shallowest one is presented. If no restrictive layer is described in a map unit, it is represented by the "> 200" depth class.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.




# Custom Soil Resource Report Map—Depth to Any Soil Restrictive Layer



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils







#### Soil Rating Polygons


-  0 - 25
-  25 - 50
-  50 - 100
-  100 - 150
-  150 - 200
-  > 200
-  Not rated or not available

#### Soil Rating Lines


-  0 - 25
-  25 - 50
-  50 - 100
-  100 - 150
-  150 - 200
-  > 200
-  Not rated or not available

#### Soil Rating Points






-  0 - 25
-  25 - 50
-  50 - 100
-  100 - 150
-  150 - 200
-  > 200

 Not rated or not available


### Water Features

 Streams and Canals

### Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

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Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
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Soil Survey Area: San Diego County Area, California  
Survey Area Data: Version 8, Sep 17, 2014

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—Jun 7, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

**Table—Depth to Any Soil Restrictive Layer**

<b>Depth to Any Soil Restrictive Layer— Summary by Map Unit — Anza-Borrego Area, California (CA804)</b>				
<b>Map unit symbol</b>	<b>Map unit name</b>	<b>Rating (centimeters)</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
NOTCOM	No Digital Data Available	>200	42.4	0.1%
<b>Subtotals for Soil Survey Area</b>			<b>42.4</b>	<b>0.1%</b>
<b>Totals for Area of Interest</b>			<b>52,400.8</b>	<b>100.0%</b>

<b>Depth to Any Soil Restrictive Layer— Summary by Map Unit — San Diego County Area, California (CA638)</b>				
<b>Map unit symbol</b>	<b>Map unit name</b>	<b>Rating (centimeters)</b>	<b>Acres in AOI</b>	<b>Percent of AOI</b>
AcG	Acid igneous rock land	10	0.4	0.0%
CeC	Carrizo very gravelly sand, 0 to 9 percent slopes	>200	2.0	0.0%
InA	Indio silt loam, 0 to 2 percent slopes	>200	63.1	0.1%
InB	Indio silt loam, 2 to 5 percent slopes	>200	79.0	0.2%
IoA	Indio silt loam, saline, 0 to 2 percent slopes	>200	14.8	0.0%
LcE2	La Posta rocky loamy coarse sand, 5 to 30 percent slopes, eroded	69	43.8	0.1%
MnB	Mecca coarse sandy loam, 2 to 5 percent slopes	>200	12.8	0.0%
RaC	Ramona sandy loam, 5 to 9 percent slopes	>200	157.5	0.3%
RaD2	Ramona sandy loam, 9 to 15 percent slopes, eroded	>200	6.5	0.0%
RkA	Reiff fine sandy loam, 0 to 2 percent slopes	>200	171.1	0.3%
RnC	Rositas loamy coarse sand, 2 to 9 percent slopes	>200	60.6	0.1%
SrD	Sloping gullied land	>200	126.0	0.2%
SvE	Stony land	>200	320.5	0.6%
<b>Subtotals for Soil Survey Area</b>			<b>1,058.0</b>	<b>2.0%</b>
<b>Totals for Area of Interest</b>			<b>52,400.8</b>	<b>100.0%</b>

**Rating Options—Depth to Any Soil Restrictive Layer***Units of Measure:* centimeters*Aggregation Method:* Dominant Component*Component Percent Cutoff:* None Specified

## Custom Soil Resource Report

*Tie-break Rule:* Lower

*Interpret Nulls as Zero:* No



# References

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## Custom Soil Resource Report

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