



## **GEOLOGIC MAP OF THE RIVERSIDE WEST 7.5' QUADRANGLE, RIVERSIDE COUNTY, CALIFORNIA**

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*Prepared in cooperation with*  
**CALIFORNIA DIVISION OF MINES AND GEOLOGY**

Open-File Report OF 01-451

2001

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards or with the North American Stratigraphic Code. Any use of trade, firm, or product names in this publication is for descriptive purposes only and does not imply endorsement by the U.S. Government.

U.S. DEPARTMENT OF INTERIOR  
U.S. GEOLOGICAL SURVEY

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## INTRODUCTION

### General

Open-File Report 01-451 contains a digital geologic map database of the Riverside West 7.5' quadrangle, Riverside County, California that includes:

1. ARC/INFO (Environmental Systems Research Institute, <http://www.esri.com>) version 7.2.1 coverages of the various elements of the geologic map.
2. A PostScript file to plot the geologic map on a topographic base, containing a Correlation of Map Units diagram (CMU), a Description of Map Units (DMU), and an index map.
3. Portable Document Format (.pdf) files of:
  - a. This Readme; includes in Appendix I, data contained in rsw\_met.txt
  - b. The same graphic as plotted in 2 above. Test plots have not produced 1:24,000-scale map sheets. Adobe Acrobat page size setting influences map scale.

The Correlation of Map Units and Description of Map Units is in the editorial format of USGS Miscellaneous Investigations Series (I-series) maps but has not been edited to comply with I-map standards. Within the geologic map data package, map units are identified by standard geologic map criteria such as formation-name, age, and lithology. Where known, grain size is indicated on the map by a

subscripted letter or letters following the unit symbols as follows: lg, large boulders; b, boulder; g, gravel; a, arenaceous; s, silt; c, clay; e.g. Qyf<sub>a</sub> is a predominantly young alluvial fan deposit that is arenaceous. Multiple letters are used for more specific identification or for mixed units, e.g., Qfy<sub>sa</sub> is a silty sand. In some cases, mixed units are indicated by a compound symbol; e.g., Qyf<sub>2sc</sub>. Marine deposits are in part overlain by local, mostly alluvial fan, deposits and are labeled Qomf. Grain size follows f.

Even though this is an Open-File Report and includes the standard USGS Open-File disclaimer, the report closely adheres to the stratigraphic nomenclature of the U.S. Geological Survey. Descriptions of units can be obtained by viewing or plotting the .pdf file (3b above) or plotting the postscript file (2 above).

This Readme file describes the digital data, such as types and general contents of files making up the database, and includes information on how to extract and plot the map and accompanying graphic file. Metadata information can be accessed at <http://geo-nsdi.er.usgs.gov/metadata/open-file/01-451> and is included in Appendix I of this Readme.

## HOW TO OBTAIN PAPER PLOTS

For those having access to large-format plotters such as HP650C, HP755C, and HP2500C, plots may be made directly from the included plot file.

## DATABASE CONTENTS

The files constituting the geologic map database of this Open-File Report are listed below along with the interchange files from which they were extracted.

### Data Package

All files listed below are in a compressed tar file named rsw.tar.gz (1.8 Mb); see section below titled, SOFTWARE UTILITIES.

<u>ARC/INFO interchange files</u>	<u>Riverside West coverages</u>	<u>Contains</u>
rsw_geo.e00	rsw_geo	Contacts, faults, geologic unit labels
rsw_ano.e00	rsw_ano	Annotation subclasses: GEO (for plotting unit labels)
rsw_str.e00	rsw_str	Annotation leaders Attitudes and their dip values. Dip values plotted as annotation.

The directory, info/, is produced in the process of importing interchange files to ARC coverages in ARC/INFO. The rsw (Riverside West) info/ directory contains:

#### Feature Attribute Tables

Polygon attribute table	rsw_geo.pat
Arc attribute table	rsw_geo.aat
	rsw_ano.aat
Point attribute table	rsw_str.pat

<u>Raster file</u>	<u>Resultant image</u>	<u>Contains</u>
rsw.tif	Riverside West base map	Topographic base from 500 dpi scan of USGS Riverside West 7.5' quadrangle, 1967

### **Plot Package**

Postscript plot files of the geologic map and explanation; please see section below titled, SOFTWARE UTILITIES for additional information.

<u>Compressed file</u>	<u>Resultant image</u>	<u>Contains</u>
rsw_map.ps.gz	rsw_map.ps	PostScript plot file of geologic map and CMU/DMU

The PostScript file is compressed using WinZip.

The uncompressed Postscript file rsw\_map.ps will plot a 1:24,000 scale, full color geologic map of the Riverside West quadrangle on the topographic base. A detailed CMU diagram, a DMU are included on the sheet. The sheet is in the editorial format of the U.S. Geological Survey's Miscellaneous Investigations (I) map series, and is approximately 50 X 36 inches in size. The map sheet has been successfully plotted on Hewlett-Packard large-format plotters, models HP650C, HP755C, and HP2500C.

### **Symbols Package**

Files in the plot package have been prepared to produce optimum plots using the shade, line, and marker sets listed below; these symbol sets and supporting fonts are included in a compressed tar file named symbols.tar.gz (0.04 Mb); see section below titled SOFTWARE UTILITIES.

geoSCAMP2.lin	Lineset
geoSCAMP2.mrk	Markerset for points
alc1.shd	Colors
geology2.shd	Pattern fills
fnt026	Font required for geoSCAMP2.lin
fnt037	Font required for geoSCAMP2.mrk
fnt035	Font required for geology2.shd

Special geologic characters used in unit designations are from the Geoage font group and may be obtained at the following web site:

Server:	onyx.wr.usgs.gov
UserID:	anonymous
Password:	Your e-mail address
Directory:	pub/wpg/supplies/geoage

### **Other files**

README.pdf	This document
rsw_map.pdf	Postscript plot file of geologic map and CMU/DMU

## SOFTWARE UTILITIES

Files which have .gz file extension were compressed using gzip. Gzip utilities are available free of charge via the Internet at the gzip home page, <http://www.gzip.org>. Files with a .zip file extension were compressed using WinZip, available at <http://www.winzip.com>.

The data package and symbols package are additionally bundled into a single tar (tape archive) file. The individual files must be extracted using a tar utility, available free of charge via the Internet through links on the Common Internet File Formats page, <http://www.matisse.net/files/format.html>. One such utility is WinZip, available at <http://www.winzip.com>.

## HOW TO OBTAIN THE DIGITAL FILES

The export files, and subsequently the data and plot files, constituting the geologic map database of this Open-File Map may be obtained in two ways, both over the Internet.

1. The files can be obtained via the Web from Western Region Geologic Information Server. Go to the web page at <http://geopubs.wr.usgs.gov/open-file/of01-451> and follow the directions to download the files.
2. The files can also be obtained by anonymous ftp over the Internet from [wrgis.wr.usgs.gov](http://wrgis.wr.usgs.gov). The files are located in the directory /pub/open-file/. Be sure to use binary transfer mode or ASCII mode for individual .e00 (ARC interchange file format) files.

## HOW TO EXTRACT THE GEOLOGIC MAP DATABASE FROM THE TAR FILE

### Digital database

After downloading the files, they must be uncompressed using a gzip utility such as gzip itself or WinZip. The data files must then be extracted using a tar utility or Winzip.

This process will create a directory, rsw/, that will contain the ARC/INFO interchange files and supporting files. The directory should contain the following files:

```
rsw/  
  rsw_geo.e00  
  rsw_str.e00  
  rsw_ano.e00  
  
  rsw.tif
```

The symbols.tar.gz file is imported using the same methods as for the rsw.tar.gz file. It will create a directory, symbols/ that will contain the following files:

```
  geoSCAMP2.lin  
  geoSCAMP2.mrk  
  alc1.shd  
  geology2.shd  
  fnt026  
  fnt037  
  fnt035
```

The following are not included in the database tar file, and are downloaded separately.

rsw\_map.ps.gz  
Readme.pdf  
rsw\_map.pdf

### **Postscript plot files**

Make a 14.2 MB uncompressed file, rsw\_map.ps (plot of complete map), by typing `gzip -d rsw_map.ps.gz` (or use `gzip` utility of choice).

### **Portable Document Format (.pdf) files**

PDF files are not stored as gzip files. They are accessed using Adobe Acrobat Reader software, available free from the Adobe website <http://www.adobe.com>. Follow instructions at the website to download and install the software. Acrobat Reader contains an on-line manual and tutorial.

## **HOW TO CONVERT THE ARC/INFO INTERCHANGE (EXPORT) FILES**

The ARC interchange (.e00) files are converted to ARC coverages using the ARC command `IMPORT`.

ARC interchange files can also be read by some other Geographic Information Systems, including ArcView (ESRI) and MapInfo (<http://www.mapinfo.com>), (Environmental Systems Research Institute, Inc., 1998). Please consult your GIS documentation to see if you can use ARC interchange files and the procedure to import them.

## **DIGITAL GEOLOGIC MAP SPECIFICATIONS**

### **Digital compilation**

The geologic map information was hand digitized from a base-stable original (ink on a greenline) of the geologic map at 1:24,000 scale. Digital tics were placed by hand at latitude/longitude intersections. The lines, points, and polygons were edited using standard ARC/INFO commands, and in some places, interactively by hand using graphical user interface ALACARTE (Fitzgibbon, 1991, Fitzgibbon and Wentworth, 1991, Wentworth and Fitzgibbon, 1991). Digitization and editing artifacts significant enough to display at a scale of 1:24,000 were corrected.

### **Base map**

The base map image (rsw.tif) was prepared by scanning a scale-stable clear film of the U.S. Geological Survey, 1:24,000 Riverside West 7.5' quadrangle (1967) topographic map. Scanning was done using an Anatech Eagle 4080 monochrome 800 dpi scanner; at a resolution of 500 dpi. The raster scan was converted to a monochromatic image in ARC/INFO, and registered and rectified to the Riverside West 7.5' quadrangle. No elements of the base layer are attributed. The base map is provided for reference only.

### **Spatial resolution**

Use of this digital geologic map database should not violate the spatial resolution of the data. Although the digital form of the data removes the constraint imposed by the scale of a paper map, the detail and accuracy inherent in map scale are also present in the digital data. The fact that this database was edited at a scale of 1:24,000 means that higher resolution information is not generally present in the dataset. Plotting at scales larger than 1:24,000 will not yield greater *real* detail, although it may reveal fine-scale irregularities above the intended resolution of the database. Similarly, although higher resolution data is

incorporated at a few places, the resolution of the combined output will be limited by the lower resolution data.

### **Map accuracy standards**

Until uniform National geologic map standards are developed and adopted, lines and points on SCAMP (Southern California Areal Mapping Project) 1:24,000 scale geologic maps that are located to within 15 meters, relative to accurately located features on the base map, are considered to meet map accuracy standards. Dashed lines, indicated in the database as approximately located or inferred, are generally located within 30 meters, relative to accurately located features on the base map.

### **Faults and landslides**

This database is sufficiently detailed to identify and characterize many actual and potential geologic hazards represented by faults and landslides, but it is not sufficiently detailed for site-specific determinations. Faults shown do not take the place of fault rupture hazard zones designated by the California State Geologist (see Hart, 1998).

### **Database specifics**

**General**--The map database consists of ARC/INFO format coverages which are stored in polyconic projection (Table 1), and a series of data tables. Digital tics define a 2.5 minute grid of latitude and longitude in the geologic coverages corresponding to the 2.5 minute tic grid on the topographic base map.

Table 1 --- Map Projection

Projection	Polyconic
Datum	NAD27
Zunits	No
Units	Meters
Spheroid	Clark 1866
X shift	0.000000000
Y shift	0.000000000
Parameters	-117 26 15.000 longitude of central meridian 33 52 30.00 latitude of projections origin 0.00000 false easting (meters) 0.00000 false northing (meters)

The content of the geologic database can be described in terms of feature classes that include lines, points, and areas that compose the map. See the metadata text file (Appendix I) for detailed descriptions.

**Lines** – Lines are recorded as strings of arcs and are described in an arc attribute (.aat) table. Complete lists of the line types (LTYPE) used in the quadrangle are available in Appendix I. They represent contacts and faults, which define the boundaries of map units and map boundaries.

**Polygons** --- Geologic map units (polygons) are described in the polygon attribute (.pat) table (details in Appendix I). For traditional descriptions of the map units, see the Portable Document Format file rsw\_map.pdf or the Postscript map plot, rsw\_map.ps. A list of all map units in the database is given in Appendix I.

**Points** – Point information (attitudes of planar and linear features) is recorded as coordinate and related information. Complete lists of the point types (PTTYPE) used in the point coverage are available in Appendix I.

## REFERENCES

- Environmental Systems Research Institute, Inc, 1991, ARC/INFO command references 6.0: Proprietary software manual
- Fitzgibbon, T.T., 1991, ALACARTE installation and system manual (version 1.0): U.S. Geological Survey, Open-File Report 91-587B
- Fitzgibbon, T.T., and Wentworth, C.M., 1991, ALACARTE user interface – AML code and demonstration Maps (version 1.0): U.S. Geological Survey, Open-File Report 91-587A
- Wentworth, C.M., and Fitzgibbon, T.T., 1991, ALACARTE user manual (version 1.0): U.S. Geological Survey Open-File Report 91-587C

## Appendix I

(Original metadata text)

Identification\_Information:

Citation:

Citation\_Information:

Originator: Douglas M. Morton

Originator: Brett F. Cox

Publication\_Date: 2001

Title: Geologic Map of the Riverside West 7.5' Quadrangle, Riverside County, California

Edition: Version 1.0

Geospatial\_Data\_Presentation\_Form: vector digital data

Series\_Information:

Series\_Name: U.S. Geological Survey Open-File Report

Issue\_Identification: USGS OFR 01-451

Publication\_Information:

Publication\_Place: Menlo Park, California

Publisher: U.S. Geological Survey

Online\_Linkage: <http://geopubs.wr.usgs.gov/open-file/of01-451>

Description:

Abstract:

This data set maps and describes the geology of the Riverside West 7.5' quadrangle, Riverside County, California. Created using Environmental Systems Research Institute's ARC/INFO software, the data base consists of the following items: (1) a map coverage containing geologic contacts and units, (2) a coverage containing structural data, (3) a coverage containing geologic unit annotation and leaders, and (4) attribute tables for geologic units (polygons), contacts (arcs), and site-specific data (points). In addition, the data set includes the following graphic and text products: (1) a postscript graphic plot-file containing the geologic map, topography, cultural data, a Correlation of Map Units (CMU) diagram, a Description of Map Units (DMU), and a key for point and line symbols, and (2) PDF files of the Readme (including the metadata file as an appendix), and the graphic produced by the Postscript plot file.

The Riverside West quadrangle is located in the northern part of the Perris block, a relatively stable, rectangular-in-plan area located between the Elsinore and San Jacinto fault zones in the northern Peninsular Ranges Province.

Most of the quadrangle is covered by a variable thickness of Quaternary alluvial material deposited on Cretaceous and older basement rocks. In the southern part of the quadrangle, northwest trending amphibolite grade biotite-bearing schist of Mesozoic or older age separates massive textured granitic rocks to the west from foliated and layered granitic rocks to the east. In the northern part of the quadrangle, scattered exposures of amphibolite grade biotite schist, impure quartzite, marble, calc-silicate rock, and skarn are probably Paleozoic. In the northeast corner of the quadrangle probable Paleozoic marble, which was quarried for local use, is intruded by tonalite, producing pyroxene-hornfels grade garnet-pyroxene skarn.

The wide variety of mafic to silicic Cretaceous plutonic rocks in the quadrangle, are part of the composite Peninsular Ranges batholith. Hornblende and pyroxene gabbro, oldest of the plutonic rocks, occurs as a number of scattered small bodies. The relatively large gabbro body located at the south edge of the quadrangle extends for some distance south into the Lake Mathews quadrangle. On both sides of this body, the granodiorite of the Cajalco pluton contains numerous stope masses of gabbro. Most of the granitic rock in the quadrangle is tonalitic with a faint to pronounced planar fabric produced by oriented biotite and hornblende. This planar structure in the northern two-thirds of the quadrangle typically strikes east, distinct from the northwest strike of planar structures common to most of the Peninsular Ranges batholith. The northwest part of the extensive, relatively uniform medium-to coarse-grained biotite-hornblende tonalite the Val Verde pluton underlies the southeast corner of the quadrangle. Relatively mafic hornblende and biotite-hornblende quartz diorite occurs in the central part of the quadrangle, and heterogeneous tonalite underlies most of the Pedley Hills in the north part of the quadrangle. In the southwestern part of the quadrangle, the northeastern extent of the lesser amounts of biotite-hornblende granodiorite. Common to this part of the Cajalco pluton are concentrated large and small stope blocks of gabbro, most too small to be mapped at 1:24,000-scale. Numerous, massive to foliated, leucocratic biotite granite bodies are scattered throughout the quadrangle. At Mount Rubidoux, very distinctive, dark colored, massive, coarse-grained granite contains hypersthene and fayalitic olivine in addition to biotite and hornblende.

Located along the southwest boundary of the quadrangle is a very small occurrence of Paleocene? conglomerate that consists of exotic welded-tuff clasts and a few exotic bedded quartzite clasts. Several small areas of late Pliocene or early Pleistocene, slightly indurated fluvial sand, gravel, and cobbles occur in the Arlington area. Clasts in the deposits north of State Highway 91 consist entirely of San Bernardino Mountains lithologies. The deposits south of State Highway 91 consist of an upper section composed of slightly indurated bouldery gravel and sand derived from nearby Peninsular Ranges basement rocks and a lower section composed of clasts of San Bernardino Mountains lithologies. The patches of sediments containing San Bernardino Mountains lithologies are interpreted as being erosional remnants of paleo-Santa Ana River deposits, deposited when the river course was further south than its present day course.

Most of the lower elevation areas of the quadrangle are covered by Pleistocene alluvial fan deposits. These fans were graded to the location of the present day course of the Santa Ana River but at a slightly higher elevation than the elevation of the present day river grade.

The eastern part of the Santa Ana River includes a relatively broad young fluvial expanse and the western part is a relatively narrow alluvial channel incised into bedrock.

The geologic map data base contains original U.S. Geological Survey data generated by detailed field observation recorded on 1:24,000 scale aerial photographs. The map was created by transferring lines from the aerial photographs to a 1:24,000 scale topographic base. The map was digitized and lines, points, and polygons were subsequently edited using standard ARC/INFO commands. Digitizing and editing artifacts significant enough to display at a scale of 1:24,000 were corrected. Within the database, geologic contacts are represented as lines (arcs), geologic units are polygons, and site-specific data as points. Polygon, arc, and point attribute tables (.pat, .aat, and .pat, respectively) uniquely identify each geologic datum.

Purpose: The data set for the Riverside West 7.5' quadrangle was prepared under the U.S. Geological Survey Southern California Areal Mapping Project (SCAMP) as part of an ongoing effort to develop a regional geologic framework of southern California, and to utilize a Geographic Information System (GIS) format to create regional digital geologic databases. These regional databases are being developed as contributions to the National Geologic Map Database of the National Cooperative Geologic Mapping Program of the USGS.

Supplemental\_Information: none

Time\_Period\_of\_Content:  
Time\_Period\_Information:  
Single\_Date/Time:  
Calendar\_Date: 2001  
Currentness\_Reference: New data

Status:  
Progress: Complete  
Maintenance\_and\_Update\_Frequency: As Needed

Spatial\_Domain:  
Bounding\_Coordinates:  
West\_Bounding\_Coordinate: -117.5000914  
East\_Bounding\_Coordinate: -117.3749086  
North\_Bounding\_Coordinate: 34.00000046  
South\_Bounding\_Coordinate: 33.87498306

Keywords:  
Theme:  
Theme\_Keyword\_Thesaurus: None  
Theme\_Keyword: geologic map  
Theme\_Keyword: geology  
Theme\_Keyword: bedrock geology  
Theme\_Keyword: alluvial geology  
Place:  
Place\_Keyword\_Thesaurus: None  
Place\_Keyword: California  
Place\_Keyword: Riverside County  
Place\_Keyword: Riverside West 7.5' quadrangle

Stratum:  
Stratum\_Keyword\_Thesaurus: None  
Stratum\_Keyword: Cretaceous tonalite and granodiorite  
Stratum\_Keyword: Quaternary deposits  
Temporal:  
Temporal\_Keyword\_Thesaurus: None  
Temporal\_Keyword: Cretaceous  
Temporal\_Keyword: Quaternary  
Access\_Constraints: None

Use\_Constraints:

The Riverside West 7.5' geologic-map database should be used to evaluate and understand the geologic character of the Riverside West 7.5' quadrangle as a whole. The data should not be used for purposes of site-specific land-use planning or site-specific geologic evaluations. The database is sufficiently detailed to identify and characterize many actual and potential geologic hazards represented by faults and landslides and posed by ground subsidence and earthquake-generated ground shaking. However, it is not sufficiently detailed for site-specific determinations or evaluations of these features. Faults shown do not take the place of fault-rupture hazard zones designated by the California State Geologist (see Hart, 1988).

Use of this digital geologic-map database should not violate the spatial resolution of the data. Although the digital form of the data removes the constraint imposed by the scale of a paper map, the detail and accuracy inherent in map scale are also present in the digital data. The fact that this database was compiled and edited at a scale of 1:24,000 means that higher resolution information may not have been uniformly retained in the dataset. Plotting at scales larger than 1:24,000 will not yield greater real detail, although it may reveal fine-scale irregularities below the intended resolution of the database. Similarly, although higher resolution data is incorporated in most of the map, the resolution of the combined output will be limited by the lower resolution data.

Point\_of\_Contact:

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Data\_Set\_Credit: Geologic mapping and digital preparation of this report were sponsored jointly by (1) the National Cooperative Geologic Mapping Program of the U.S. Geological Survey, (2) the California Division of Mines and Geology, and (3) the Southern California Areal Mapping Project (SCAMP).

Native\_Data\_Set\_Environment:

SunOS, 5.8, sun4m UNIX

ARC/INFO version 7.2.1

Cross\_Reference:

Citation\_Information:

Originator: Morton, D.M.

Publication\_Date: 1999

Title: Preliminary digital geologic map of the Santa Ana 30'x60' quadrangle, southern California, version 1.0.

Geospatial\_Data\_Presentation\_Form: vector digital data

Series\_Information:

Series\_Name: U.S. Geological Survey Open-File Report

Issue\_Identification: USGS OF 99-172

Publication\_Information:

Publication\_Place: California

Publisher: U.S. Geological Survey

Online\_Linkage: <http://geopubs.wr.usgs.gov/open-file/of99-172>

Data\_Quality\_Information:

Attribute\_Accuracy:

Attribute\_Accuracy\_Report:

Geologic-map units in the Riverside West quadrangle database were described using standard field methods. Consistent with these methods, the database author has assigned standard geologic attributes to geologic lines, points, and polygons identified in the database.

Nation-wide geologic-map accuracy standards have not been developed and adopted by the U.S. Geological Survey and

other earth-science entities. Until such standards are adopted, the SCAMP project has developed internal map-accuracy standards for 1:24,000-scale geologic maps produced by the project.

Geologic lines and points on 1:24,000 scale geologic maps are judged to meet SCAMP's internal map-accuracy standards if they are located to within +/-15 meters, relative to topographic or cultural features on the base map.

On any derivative geologic-map plot, line data that are judged to meet the SCAMP internal map-accuracy standard are denoted by solid lines; line data that may not meet the SCAMP internal map-accuracy standard are denoted by dashed or dotted lines. There is no cartographic device for denoting the map-accuracy for geologic-point data (e.g., symbols representing bedding, foliation, lineations, etc.).

Logical\_Consistency\_Report:

Polygon and chain-node topology present.

The areal extent of the map is represented digitally by an appropriately projected (polyconic projection), mathematically generated box. Consequently, polygons intersecting the lines that comprise the map boundary are closed by that boundary. Polygons internal to the map boundary are completely enclosed by line segments which are themselves a set of sequentially numbered coordinate pairs. Point data are represented by coordinate pairs.

Completeness\_Report: The geologic map database of the Riverside West 7.5' quadrangle contains new data that have been subjected to rigorous review and are a substantially complete representation of the current state of knowledge concerning the geology of the quadrangle.

Positional\_Accuracy:

Horizontal\_Positional\_Accuracy:

Horizontal\_Positional\_Accuracy\_Report: The maximum transformation RMS error acceptable for a 7.5' quadrangle transformation and data input is 0.003 (1.8 meters). Horizontal positional accuracy was checked by visual comparison of hard-copy plots with base-stable source data.

Lineage:

Process\_Step:

Process\_Description: Field mapping and aerial photograph interpretation; iterative process (D.M. Morton).

Process\_Date: 1978; 1995-96

Process\_Step:

Process\_Description: Field mapping and aerial photograph interpretation; iterative process (B.F. Cox).

Process\_Date: 1980

Process\_Step:

Process\_Description: Digitization of geologic linework and point data from a scale-stable cartographic base of quadrangle. ARC/INFO database established; cleanup of artifacts; polygon, arc, and point attribute tables established. Digitizing and editing artifacts significant enough to display at a scale of 1:24,000 were corrected (R.M. Alvarez and V.M. Diep).

Process\_Date: 1999-2001

Process\_Step:

Process\_Description: Description of map units and correlation of map units (F.K. Miller).

Process\_Date: 2001

Process\_Step:

Process\_Description:

First draft of metadata created by Michael J. Watson using  
FGDCMETA.AML ver. 1.2 05/14/98 on ARC/INFO data set  
/scamp26/mwatson/rsw\_ofr/rsw\_geo

Process\_Date: 20011002

Spatial\_Data\_Organization\_Information:

Direct\_Spatial\_Reference\_Method: Vector

Point\_and\_Vector\_Object\_Information:

SDTS\_Terms\_Description:

SDTS\_Point\_and\_Vector\_Object\_Type: Point

Point\_and\_Vector\_Object\_Count: 209

SDTS\_Point\_and\_Vector\_Object\_Type: String

Point\_and\_Vector\_Object\_Count: 531

SDTS\_Point\_and\_Vector\_Object\_Type: GT-polygon composed of chains

Point\_and\_Vector\_Object\_Count: 210

Spatial\_Reference\_Information:

Horizontal\_Coordinate\_System\_Definition:

Planar:

Map\_Projection:

Map\_Projection\_Name: Polyconic

Polyconic:

Latitude\_of\_True\_Scale: 33.875

Longitude\_of\_Central\_Meridian: -117.4375

False\_Easting: 0.00000

False\_Northing: 0.00000

Planar\_Coordinate\_Information:

Planar\_Coordinate\_Encoding\_Method: coordinate pair

Coordinate\_Representation:

Abscissa\_Resolution: 1.000380039215

Ordinate\_Resolution: 1.000380039215

Planar\_Distance\_Units: Meters

Geodetic\_Model:

Horizontal\_Datum\_Name: North American Datum of 1927

Ellipsoid\_Name: Clarke 1866

Semi-major\_Axis: 6378206.4

Denominator\_of\_Flattening\_Ratio: 294.98

Entity\_and\_Attribute\_Information:

Overview\_Description:

Entity\_and\_Attribute\_Overview:

Version 1.0 of the Riverside West 7.5' quadrangle comprises three ARC/INFO coverages, of which two contain geologic data, and one contains cartographic features: rsw\_geo (geology), rsw\_str (structural data), and rsw\_ano (annotation and leaders).

Geologic data represented by line entities and the polygons they delineate are contained in the coverage RSW\_GEO. For display purposes, the annotation coverage contains one annotation subclass: anno.geo contains unit labels.

Geological point data includes site-specific information describing the types and the orientation of bedding, foliation, and lineations. Annotation is respective dip and plunge values associated with individual point data.

>

>RSW\_GEO.PAT:

>

>COLUMN ITEM NAME WIDTH OUTPUT TYPE N.DEC ALTERNATE NAME

> 1 AREA 4 12 F 3

> 5 PERIMETER 4 12 F 3

> 9 RSW\_GEO# 4 5 B -

> 13 RSW\_GEO-ID 4 5 B -

> 17 LABL 35 35 C -

> 52 SHD 3 3 I -

> 55 PLABL 35 35 C -

> 90 SHDFIL 3 3 I -

> 93 NAME 200 200 C -

>

>

>RSW\_GEO.AAT:

>

>COLUMN ITEM NAME WIDTH OUTPUT TYPE N.DEC ALTERNATE NAME

> 1 FNODE# 4 5 B -

> 5 TNODE# 4 5 B -

> 9 LPOLY# 4 5 B -

> 13 RPOLY# 4 5 B -

> 17 LENGTH 4 12 F 3

> 21 RSW\_GEO# 4 5 B -

> 25 RSW\_GEO-ID            4 5 B -  
 > 29 LTYPE                35 35 C -  
 > 64 L-SYMB               3 3 I -  
 >  
 >

Entity\_and\_Attribute\_Detail\_Citation: none

Detailed\_Description:

Entity\_Type:

Entity\_Type\_Label: rsw\_geo.pat

Entity\_Type\_Definition: Geologic units (LABL) and their corresponding names (NAME) identified in the Riverside West 7.5' quadrangle

Attribute:

Attribute\_Label: LABL

Attribute\_Definition: geologic map unit label, in plain text

Attribute\_Domain\_Values:

Enumerated\_Domain:

Enumerated\_Domain\_Value: Kcg

Enumerated\_Domain\_Value\_Definition: Monzogranite of Cajalco pluton

Enumerated\_Domain:

Enumerated\_Domain\_Value: Kcgb

Enumerated\_Domain\_Value\_Definition: Granodiorite and gabbro, undifferentiated of Cajalco pluton

Enumerated\_Domain:

Enumerated\_Domain\_Value: Kdqd

Enumerated\_Domain\_Value\_Definition: Diorite and quartz diorite, undifferentiated

Enumerated\_Domain:

Enumerated\_Domain\_Value: Kg

Enumerated\_Domain\_Value\_Definition: Granitic dikes

Enumerated\_Domain:

Enumerated\_Domain\_Value: Kgb

Enumerated\_Domain\_Value\_Definition: Gabbro

Enumerated\_Domain:

Enumerated\_Domain\_Value: Kgu

Enumerated\_Domain\_Value\_Definition: Granite, undifferentiated

Enumerated\_Domain:

Enumerated\_Domain\_Value: Klst

Enumerated\_Domain\_Value\_Definition: La Sierra tonalite

Enumerated\_Domain:

Enumerated\_Domain\_Value: Kmrg

Enumerated\_Domain\_Value\_Definition: Granite of Mount Rubidoux

Enumerated\_Domain:

Enumerated\_Domain\_Value: Kqd

Enumerated\_Domain\_Value\_Definition: Quartz diorite, undifferentiated

Enumerated\_Domain:

Enumerated\_Domain\_Value: Krg

Enumerated\_Domain\_Value\_Definition: Granite of the Riverside area

Enumerated\_Domain:

Enumerated\_Domain\_Value: Kt

Enumerated\_Domain\_Value\_Definition: Tonalite, undifferentiated

Enumerated\_Domain:

Enumerated\_Domain\_Value: Ktd

Enumerated\_Domain\_Value\_Definition: Tonalite dikes of Mount Rubidoux

Enumerated\_Domain:

Enumerated\_Domain\_Value: Kvt

Enumerated\_Domain\_Value\_Definition: Val Verde tonalite

Enumerated\_Domain:

Enumerated\_Domain\_Value: Kvt?  
 Enumerated\_Domain\_Value\_Definition: Val Verde tonalite  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Mzs  
 Enumerated\_Domain\_Value\_Definition: Schist  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Pzms  
 Enumerated\_Domain\_Value\_Definition: Marble and schist, undifferentiated  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Pzq  
 Enumerated\_Domain\_Value\_Definition: Impure quartzite  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Pzs  
 Enumerated\_Domain\_Value\_Definition: Biotite schist  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: QTc  
 Enumerated\_Domain\_Value\_Definition: Conglomerate sedimentary rocks of Riverside West 7.5'  
 quadrangle  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: QTs  
 Enumerated\_Domain\_Value\_Definition: Unnamed late Cenozoic sedimentary rocks in Riverside and  
 Corona areas  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Qaf  
 Enumerated\_Domain\_Value\_Definition: Artificial fill  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Qofa  
 Enumerated\_Domain\_Value\_Definition: Old alluvial fan deposits, arenaceous  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Qova  
 Enumerated\_Domain\_Value\_Definition: Old alluvial valley deposits, arenaceous  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Qvofa  
 Enumerated\_Domain\_Value\_Definition: Very old alluvial fan deposits, arenaceous  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Qwa  
 Enumerated\_Domain\_Value\_Definition: Wash deposits, arenaceous  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Qyaa  
 Enumerated\_Domain\_Value\_Definition: Young axial channel deposits, arenaceous  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Qye  
 Enumerated\_Domain\_Value\_Definition: Young eolian deposits  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Qyfa  
 Enumerated\_Domain\_Value\_Definition: Young alluvial fan deposits, arenaceous  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Qywa  
 Enumerated\_Domain\_Value\_Definition: Young wash deposits, arenaceous  
 Enumerated\_Domain:  
 Enumerated\_Domain\_Value: Tcga  
 Enumerated\_Domain\_Value\_Definition: Conglomerate at Arlington Mountain  
 Attribute:  
 Attribute\_Label: PLABL  
 Attribute\_Definition: Geological map unit label used to generate plot labels with relevant stratigraphic  
 symbols. The geologic units with LABL designating Mesozoic (Mz) have keystone substitute characters,

}, that call their corresponding symbols from the Stratagem Font Group. Geologic map unit labels will plot on derivative map plots with appropriate stratigraphic symbols if PLABL is used as the source for unit labels.

Attribute:

Attribute\_Label: SHD

Attribute\_Definition: polygon color (as integer value) from shadeset alc1.shd (included in the data package)

Attribute:

Attribute\_Label: SHDFIL

Attribute\_Definition: polygon fill pattern (as integer value) from shadeset geology2.shd (included in the data package)

Attribute:

Attribute\_Label: NAME

Attribute\_Definition: Geologic name of map unit (see list under LABL attribute)

Detailed\_Description:

Entity\_Type:

Entity\_Type\_Label: rsw\_geo.aat

Entity\_Type\_Definition: Geologic features such as contacts and faults that bound rock-unit polygons

Attribute:

Attribute\_Label: LTYPE

Attribute\_Definition: Description of types of lines on the geologic map (contact, fault).

Attribute\_Domain\_Values:

Enumerated\_Domain:

Enumerated\_Domain\_Value: map boundary

Enumerated\_Domain\_Value: contact, certain

Attribute:

Attribute\_Label: L-SYMB

Attribute\_Definition: stores appropriate line symbol value from the lineset geoscamp2.lin

Detailed\_Description:

Entity\_Type:

Entity\_Type\_Label: rsw\_str.pat

Entity\_Type\_Definition: Geological point data includes site-specific information describing the types and the orientation of bedding, foliation, and lineations. One annotation subclass is included in the geologic points coverage, STP\_STR which displays the respective dip and plunge values associated with individual point data.

Attribute:

Attribute\_Label: PTTYPER

Attribute\_Definition: describes type of point data (bedding, horizontal bedding, foliation)

Attribute:

Attribute\_Label: P-SYMB

Attribute\_Definition: Coded integer value that relates point to cartographic point symbol in markerset geoscamp2.mrk

Attribute:

Attribute\_Label: STRIKE

Attribute\_Definition: Azimuthal strike of planar feature

Attribute:

Attribute\_Label: DIP

Attribute\_Definition: Dip of planar feature

Detailed\_Description:

Entity\_Type:

Entity\_Type\_Label: rsw\_ano.aat

Entity\_Type\_Definition: Annotation leaders

Attribute:

Attribute\_Label: L-SYMB

Attribute\_Definition: Coded integer value (1) that relates arcs to cartographic line symbol in lineset geoscamp2.lin

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This digital geologic map database of the Riverside West 7.5' quadrangle, 1:24,000 map-scale, and any derivative maps thereof, is not meant to be used or displayed at any scale larger than 1:24,000 (e.g., 1:12,000).

Metadata\_Reference\_Information:

Metadata\_Date: 20011002

Metadata\_Review\_Date: 20011106

Metadata\_Contact:

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Metadata\_Standard\_Name: FGDC Content Standards for Digital Geospatial Metadata

Metadata\_Standard\_Version: Version of June 8, 1994

Metadata\_Access\_Constraints: none

Metadata\_Use\_Constraints: none