



EXPLANATION	
CORRELATION OF MAP UNITS	
Qaf	} QUATERNARY
Qya	
Qya ₂	} TERTIARY (?)
Qya ₁	
Qls	} CRETACEOUS
Qoa	
Qoa ₃	} PRE-CRETACEOUS (?)
Qoa ₂	
Qoa ₁	
Ts	
Ts ₂	
Ts ₁	
Eqm	
Eqd	
Eqd ₁	
gn	
gn ₁	

- DESCRIPTION OF MAP UNITS
- Qaf ARTIFICIAL FILL--Uncompacted fill from solid-waste disposal
 - Qya YOUNGER ALLUVIUM--Unconsolidated grayish sandy to bouldery alluvium along Santa Ana Wash and San Timoteo Canyon. Subject or recently subject to reworking by stream flow
 - Qya₂ YOUNGER ALLUVIUM--Unconsolidated grayish pebbly to bouldery alluvium
 - Qya₁ YOUNGER ALLUVIUM--Unconsolidated grayish sandy to pebbly alluvium
 - Qls LANDSLIDES--Areas mapped as landslides generally consist of a crown area and a landslide deposit of massive unconsolidated debris. Principal direction of movement shown by arrows
 - Qoa OLDER ALLUVIUM--Mainly indurated tannish to brown sandy to pebbly clay-bearing older alluvium
 - Qoa₃ OLDER ALLUVIUM--Mainly perched indurated brown sandy to cobbly clay-bearing older alluvium. Contains in most places basal concentration of cobbles of leucocratic granite and Pelona Schist. Cobbly and bouldery east of Reservoir Canyon
 - Qoa₂ OLDER ALLUVIUM--Perched mainly indurated brown pebbly to cobbly clay-bearing older alluvium between Reche and San Timoteo Canyons. Contains quartzite, pegmatite, and Pelona Schist cobbles
 - Qoa₁ OLDER ALLUVIUM--Unconsolidated to poorly consolidated bouldery older alluvium adjacent to the San Andreas fault
 - Ts SANDSTONE AND CONGLOMERATE--Unconsolidated to indurated grayish to tannish poorly bedded coarse-grained sandstone, pebbly sandstone, and conglomerate. Locally contains beds of reddish-brown clay-bearing sandstone. May include some deposits of Pleistocene age
 - Ts₂ CONGLOMERATE--Consolidated light-gray poorly bedded conglomerate. Contains quartzite cobbles that are not present in units Ts and Ts₁
 - Ts₁ SANDSTONE AND SILTSTONE--Mainly greenish-gray indurated finely bedded sandstone and siltstone. Locally contains convolute bedding
 - Eqm QUARTZ MONZONITE--Light-colored coarse-grained well-foliated biotite quartz monzonite
 - Eqd QUARTZ DIORITE--Relatively homogeneous gray foliated medium- to coarse-grained biotite-hornblende quartz diorite
 - Eqd₁ QUARTZ DIORITE--Heterogeneous gray massive to foliated medium- to coarse-grained biotite-hornblende quartz diorite and hornblende dioritic rock. Variable amounts of mesocratic inclusions
 - gn GNEISS--Mainly heterogeneous layered cataclastic gneiss. Includes mafic-rich hornblende- and biotite-hornblende-rich cataclastic gneiss and all variations to leucocratic quartzofeldspathic cataclastic gneiss
 - gn₁ GNEISS--Mainly heterogeneous interlayered biotite quartzofeldspathic gneiss. Most is highly contorted

- Symbols
- Contact. Solid where accurately located; dashed where approximately located; dotted where gradational
 - Fault, showing dip. Solid where accurately located; dashed where approximately located; dotted where concealed; queried where questionable located or inferred
 - Fault consisting of thin shear zone, showing dip
 - Strike and dip of bedding in sedimentary rocks
 - Horizontal
 - Inclined
 - Strike and dip of foliation in plutonic rocks
 - Strike and dip of foliation in metamorphic rocks
 - Inclined
 - Vertical
 - Direction of landslide movement
 - Closed depression

GEOLOGIC MAP OF THE REDLANDS QUADRANGLE,
SAN BERNARDINO AND RIVERSIDE COUNTIES, CALIFORNIA

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This report is preliminary and has not been edited or reviewed for conformity with Geological Survey standards and nomenclature.