



EXPLANATION

CORRELATION OF MAP UNITS

Qaf	Qya	Qya ₂	Qya ₁	Qls	Holocene	QUATERNARY
Qoa	Qoa ₃	Qoa ₂	Qoa ₁		Pleistocene	
Ts	Ts ₂	Ts ₁			Pliocene (?)	TERTIARY (?)
Kqm	Kqd	Kqd ₁				CRETACEOUS
gn	gn ₁					PRE-CRETACEOUS (?)

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
Qya ₂	YOUNGER ALLUVIUM--Unconsolidated grayish pebbly to bouldery alluvium
Qya ₁	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
Qoa ₃	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
Qoa ₂	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
Qoa ₁	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
Ts ₂	CONGLOMERATE--Consolidated light-gray poorly bedded conglomerate. Contains quartzite cobbles that are not present in units Ts and Ts ₁
Ts ₁	SANDSTONE AND SILTSTONE--Mainly greenish-gray indurated finely bedded sandstone and siltstone. Locally contains convolute bedding
Kqm	QUARTZ MONZONITE--Light-colored coarse-grained well-foliated biotite quartz monzonite
Kqd	QUARTZ DIORITE--Relatively homogeneous gray foliated medium- to coarse-grained biotite-hornblende quartz diorite
Kqd ₁	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
gn ₁	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.