



**EXPLANATION**

**CORRELATION OF MAP UNITS**

Qaf	Qya	Qya <sub>1</sub>	Qls	} Holocene	} QUATERNARY					
Qoa	Qoa <sub>2</sub>	Qoa <sub>1</sub>	Qoa			} Pleistocene				
Ts	Ts <sub>4</sub>	Ts <sub>3</sub>	Ts <sub>2</sub>	Ts <sub>1</sub>	} Pliocene (?)	} TERTIARY				
Kg	Kqm	Kqm <sub>2</sub>	Kqm <sub>1</sub>	Kqd	Kqd <sub>4</sub>	Kqd <sub>3</sub>	Kqd <sub>2</sub>	Kqd <sub>1</sub>	Kd	} CRETACEOUS
S										} PRE-CRETACEOUS (?)

- DESCRIPTION OF MAP UNITS**
- Qaf ARTIFICIAL FILL--Compacted road fill
  - Qya YOUNGER ALLUVIUM--Unconsolidated grayish sandy to cobbly alluvium along San Timoteo Canyon. Subject to reworking by stream flow--especially during periods of high runoff
  - Qya<sub>1</sub> YOUNGER ALLUVIUM--Unconsolidated tannish to grayish sandy to cobbly 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<sub>2</sub> OLDER ALLUVIUM--Mainly indurated tannish to brown sandy to pebbly clay-bearing alluvium
  - Qoa<sub>1</sub> OLDER ALLUVIUM--Perched patches of mainly unconsolidated to indurated brownish to grayish sandy to cobbly clay-bearing alluvium. Deposits in "The Badlands" generally contain less clay than in other such deposits
  - Qoa OLDER ALLUVIUM--Perched patches of mainly indurated brown pebbly to cobbly clay-bearing alluvium containing quartzite, pegmatite, and Pelona Schist clasts
  - Ts SANDSTONE AND CONGLOMERATE--Unconsolidated to indurated grayish and greenish poorly bedded coarse-grained sandstone and conglomeratic beds. Apparently derived from Ts<sub>3</sub> and Ts<sub>1</sub>. May include some deposits of Pleistocene age
  - Ts<sub>4</sub> SANDSTONE AND CONGLOMERATE--Unconsolidated to indurated grayish, greenish-gray, and 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<sub>3</sub> SANDSTONE AND CONGLOMERATE--Mainly well-indurated grayish conglomerate beds alternating with reddish-brown sandstone and siltstone beds. Common cliff former. Contains abundant cataclastic clasts
  - Ts<sub>2</sub> CONGLOMERATE--Consolidated light-gray poorly bedded conglomerate. Contains quartzite clasts not found in units Ts<sub>4</sub>, Ts<sub>3</sub>, and Ts<sub>1</sub>
  - Ts<sub>1</sub> SANDSTONE AND CONGLOMERATE--Indurated gray to greenish-gray, well-bedded to poorly-bedded siltstone, sandstone, pebbly sandstone, and conglomerate. In part arkosic. Clasts are mainly leucocratic granitic rock and gneisses
  - Kg GRANITE--Coarse-grained to pegmatitic off-white biotite granite forming dikes
  - Kqm QUARTZ MONZONITE Light-colored coarse-grained porphyritic foliated biotite quartz monzonite. Phenocrysts are K-feldspar
  - Kqm<sub>2</sub> QUARTZ MONZONITE Heterogeneous light-colored porphyritic foliated biotite quartz monzonite. Contains widespread mesocratic inclusions and leucocratic granitoid and pegmatoid textured dike and sill rock
  - Kqm<sub>1</sub> QUARTZ MONZONITE Light-colored coarse-grained well-foliated biotite quartz monzonite
  - Kqd QUARTZ DIORITE Gray medium-grained massive biotite-hornblende quartz diorite
  - Kqd<sub>4</sub> QUARTZ DIORITE--Gray coarse-grained foliated biotite-hornblende quartz diorite containing abundant platelike mesocratic inclusions
  - Kqd<sub>3</sub> QUARTZ DIORITE--Relatively homogeneous gray foliated medium- to coarse-grained biotite-hornblende quartz diorite. Mainly lighter and contains fewer inclusions than Kqd<sub>4</sub>
  - Kqd<sub>2</sub> QUARTZ DIORITE--Heterogeneous gray massive to foliated medium- to coarse-grained biotite-hornblende quartz diorite and hornblende dioritic rock. Variable amounts of mesocratic inclusions. Rock west of Mount Russell commonly contains more than one foliation orientation
  - Kqd<sub>1</sub> QUARTZ DIORITE--Gray mainly foliated coarse-grained biotite-hornblende and hornblende quartz diorite. Common but variable amount of plate-like mesocratic inclusions
  - Kd DIORITIC ROCK--Heterogeneous dark-gray massive to poorly foliated fine- to coarse-grained hornblende dioritic rock
  - S SCHIST--Septa of well-foliated biotite- and sillimanite-biotite-bearing schist. East of Mount Russell locally tourmaline-rich schist

- Symbols**
- Contact. Solid where accurately located; dashed where approximately located
  - Fault showing dip. Solid where accurately located; dashed where approximately located; dotted where concealed
  - 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
    - Horizontal
    - Inclined
    - Vertical
  - Strike and dip of foliation in metamorphic rocks
    - Inclined
    - Vertical
  - Lineation
  - Direction of landslide movement
  - Closed depression
  - Landslide scarp. Hachures on downdropped side

GEOLOGIC MAP OF THE SUNNYMEAD QUADRANGLE, RIVERSIDE COUNTY, CALIFORNIA

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