

GEOLOGICAL MAP OF THE BLACK ROCK DETACHMENT, SANTA TERESA MOUNTAINS, SE ARIZONA

BY

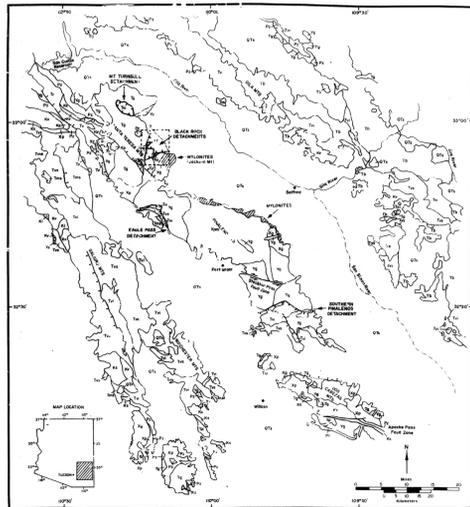
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SCALE 1" : 1000'

1990



- Legend**
- Recent**
- Qal** Quaternary Alluvium Unconsolidated gravel and sand. Includes stream deposits and some slope wash.
  - Qg** Quaternary Gravel Reworked Qg and Tt.
  - Qtg** Quaternary/Tertiary Gravel Weakly consolidated, poorly stratified light grey fanglomerate. Derived from the Precambrian granitic gneiss, metaquartzite and Santa Teresa Granite.
- Miocene**
- Tt** Tertiary Fanglomerate Well indurated conglomerate, contains debris flow and coarse fluvial material. Poorly stratified, subangular to subrounded. Contains granite, metaquartzite, schist, and volcanic clasts. This unit is tilted and cut by the Upper Detachment fault. Thickness is probably over 600 m.
  - Tvb** Volcanic Breccia Reddish-brown sedimentary breccia, crudely bedded. Formed by angular rhyolite, dacite, and tuff clasts. Locally contains schist clasts. Poorly sorted. Clasts up to 1 m.
  - Tvr** Rhyolite Rhyolite of Black Rock. Reddish-brown massive, microcrystalline to fine grained rhyolite. In places shows closely spaced joints (cooling joints?).
  - Tvs** Silicic Volcanics Undifferentiated rhyolite/dacite. Commonly brecciated porphyritic to aphanitic rhyolite/dacite, greyish-red to light pink. Weathers white.
  - Tva** Andesitic Volcanics Aphanitic and porphyritic ("Turkey Track") andesite. Medium grey, weathers purple. Locally very brecciated.
  - Tc** Basal Conglomerate? Dark reddish-brown polygenetic conglomerate. Contains abundant angular metamorphic and some plutonic clasts. Also has fragments of both aphanitic and porphyritic andesite. Clasts < 15 cm.
  - Tgr** Santa Teresa Granite Light colored, coarse grain, equigranular biotite granite. Age of the related Goodwin Canyon Quartz Monzonite is  $24.9 \pm 0.7$  ma (K/Ar) (Rehrig and Reynolds, 1980).
- Precambrian (Middle Proterozoic)**
- Xgg** Granitic Gneiss Foliated leucogranite. Equigranular, medium grain.
  - Xgn** Gneiss Strongly foliated biotite gneiss. Includes mafic and intermediate portions.
- Pinal Schist Units**
- Xps** Pinal Schist Green phyllites and schists interbedded with thin grained quartzites.
  - Xpq** Pinal Quartzite Light grey, massive quartzite. Locally meta-pebble conglomerate. Very thick in Jackson Mountain area.
  - Xvg** Volcanic Gneiss Aphanitic metabasalt/andesite? Minor dioritic intrusions and possibly fine-grain sedimentary or tuffaceous material.

- Main Detachment: Fault with dip angle, dashed where inferred, dotted where covered.
- Upper Detachment Fault with dip angle, dashed where inferred, dotted where covered.
- Normal Fault with dip angle, dashed where inferred, dotted where covered.
- Synclinal Axis
- Stratigraphic contact.
- Approximate stratigraphic contact.
- Strike and dip of bedding.
- Strike and dip of foliation.
- Trend and plunge of sinention.
- Zone of brecciation.
- Ultrabreccia ledge.

**References**

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