

**GEOLOGIC MAP OF THE AGUILA  
RIDGE - BULLARD PEAK AREA,  
EASTERN HARCUIVAR MOUNTAINS,  
WEST-CENTRAL ARIZONA**

by

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This report is preliminary and has not been edited  
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## POST-DETACHMENT DEPOSITS

Qs - Quaternary surficial deposits

## ROCK UNITS ABOVE THE BULLARD DETACHMENT FAULT

- Ts - sedimentary rocks (lower Miocene); includes sandstone, siltstone, and conglomerate
- Tba - Bullard Andesite (lower Miocene); ss - sandstone interbeds
- Ta - andesite (lower Miocene to upper Oligocene); interbedded with or intruded into unit Tc
- Tc - upper conglomerate (lower Miocene to upper Oligocene); mostly composed of large, angular clasts of Mesozoic clastic rocks
- Tcb - conglomerate and sedimentary breccia (lower Miocene to upper Oligocene); composed of the following units from bottom to top: (1) lower conglomerate of well rounded clasts of quartzite, possibly derived from Precambrian Mazatzal Quartzite of central Arizona; (2) sedimentary breccia and megabreccia landslide blocks of shattered porphyritic granite; and (3) conglomerate composed of clasts of Mesozoic clastic rocks and granitic rocks
- Tvc - volcanoclastic and volcanic breccia (upper Oligocene)
- Tt - welded ash-flow tuff (upper Oligocene); subdivided on Aguila Ridge into the following units:
- Ttu - upper, lithic ash-flow tuff; commonly gray, tan, or buff colored
- Ttm - middle, trachytic, welded ash-flow tuff; reddish-brown color; unit includes several distinct welded ash-flow tuffs with local vitrophyres and nonwelded intervals
- Ttl - lower, rhyolitic(?) tuff; greenish gray with numerous lithophysae
- Tvs - volcanoclastic sandstone (upper Oligocene); locally present between Ttm and Ttu
- Tcl - arkosic conglomerate and conglomeratic sandstone (Oligocene?); reddish brown color; composed of granitic and metamorphic pebbles to boulders in an arkosic matrix
- d - rhyolite to quartz latite dikes (Upper Cretaceous or Tertiary?)
- Tkg - muscovite granite (Upper Cretaceous or Lower Tertiary); medium-grained, equigranular with 2-3 percent muscovite and minor biotite and pale red garnet
- Kg - granite and granodiorite (Upper Cretaceous); medium- to coarse-grained, equigranular, with 2-3 percent biotite and minor hornblende; biotite from

this unit yielded a late Cretaceous K-Ar age (J. Kirkwood, 1977, oral communication, CONOCO Minerals)

P6g - porphyritic granite (Precambrian); medium- to coarse-grained with 15 to 20 percent K-feldspar phenocrysts 0.5 to 3 cm long in a matrix of plagioclase, quartz, and biotite; commonly foliated

P6m - metamorphic rocks (Precambrian); composed of compositionally banded quartzofeldspathic gneiss and biotite schist; local quartz-rich schist, muscovite-biotite schist, and medium- to fine-grained granofels; crystalloblastic foliation parallel to compositional layering.

#### **ROCKS BELOW THE BULLARD DETACHMENT FAULT**

TKm - metamorphic and mylonitic rocks (Upper Cretaceous to middle Tertiary); derived from Precambrian metamorphic and plutonic rocks and Upper Cretaceous to Tertiary granitic rocks