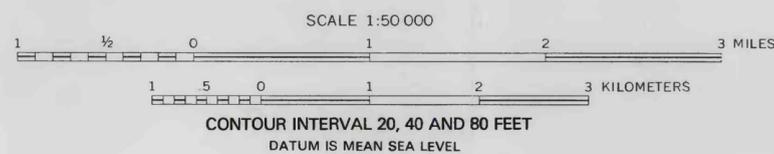


Base from U.S. Geological Survey, 1:62,500
Bylas, Fort Thomas, 1960; 1:24,000
Ash Creek Ranch, 1966; Tule Tubs, 1967

Geology by F. S. Simons, 1984

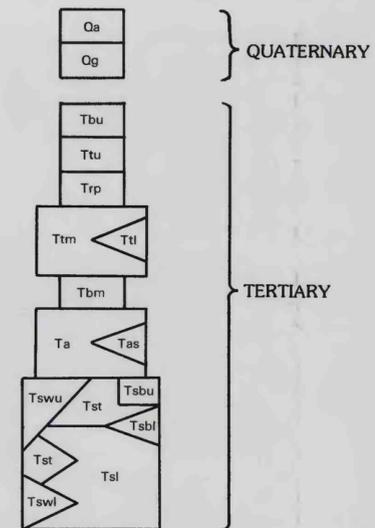


APPROXIMATE MEAN
DECLINATION, 1967

EXPLANATION OF
MINERAL RESOURCE POTENTIAL

L/C Geologic terrane having low mineral resource potential for base and precious metals, nonmetals, and energy resources, with certainty level C

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

- Oa Alluvium (Quaternary)
- Og Gravel (Quaternary)—Coarse gravel on mesa east of Diamond Bar ranch
- Tbu Upper basalt (Tertiary)—Sequence of three or four flows of olivine basalt, north end of study area. About 300 ft thick
- Ttu Upper silicic tuff (Tertiary)—Very coarse, crudely bedded lithic tuff breccia; caps Gila Peak and knobs to west. 300-500 ft thick
- Trp Rhyolitic plugs and vent breccia (Tertiary)—Fine-grained rhyolite, rhyolite vitrophyre, and vent or near-vent breccia. Forms five large and at least six small intrusive bodies, the largest 1.9 mi long
- Ttm Middle silicic volcanic rocks (Tertiary)—Mostly cliff-forming, conspicuously crossbedded lithic tuff breccia 450-500 ft thick
- Ttl Lava and flow breccia locally in upper part of Ttm—100-125 ft thick
- Tbm Middle basalt (Tertiary)—Coarse- to fine-grained porphyritic olivine basalt flows. Aggregate thickness at least 1,000 ft
- Ta Andesitic volcanic rocks (Tertiary)—Red to grayish-red porphyritic to fine-grained flows, flow breccias, and breccia; locally contains dacitic to rhyolitic tuff beds as much as 150 ft thick, volcanic conglomerate, and very coarse volcanic breccia. Probably at least 1,500 ft thick
- Tas Silicic tuffaceous sandstone and conglomerate

- Lower silicic volcanic rocks (Tertiary)**
- Tswu Upper welded ash-flow tuff—Pale-red, biotite-rich, moderately welded lithic tuff, in central part of study area. 40-100 ft thick
- Tsbu Upper vitrophyre breccia—Flow breccia of gray-to-red vitrophyre having conspicuous columnar jointing, near northwestern end of study area. About 150 ft thick
- Tst Tuff and tuff breccia—Cliff-forming, distinctly bedded lithic tuff and tuff breccia, locally with lava flows in lower part. 600-800 ft thick
- Tsbli Lower vitrophyre breccia—Contains vitrophyre breccia, silicic lava, and at top, a thin flow of olivine basalt
- Tswl Lower welded ash-flow tuff—Grayish-red, moderately to densely welded biotite-rich vitric tuff. Underlies conspicuous benches east of McKinney Canyon. As much as 250 ft thick
- Tsl Lava flows and flow breccias—Mostly red to brown porphyritic andesite, dacite, or latite; some rhyolitic lava and tuff. At least 2,000 ft thick in southeastern part of study area

- Contact
- Fault—Showing dip. Dashed where approximately located, dotted where concealed. Bar and ball on downthrown side
- Strike and dip of flow layering
- 45° Inclined
- Vertical
- Strike and dip of beds
- ⊕ Horizontal
- 20° Inclined
- x₁ Locality and number of rock sample containing anomalous amounts of one or more elements
- O₁ Locality and number of heavy-mineral concentrate containing anomalous amounts of copper, lead, thorium, or tin

LEVEL OF RESOURCE POTENTIAL ↑	U/A	H/B	H/C	H/D
	UNKNOWN	HIGH POTENTIAL	HIGH POTENTIAL	HIGH POTENTIAL
		M/B	M/C	M/D
POTENTIAL	MODERATE POTENTIAL	MODERATE POTENTIAL	MODERATE POTENTIAL	
	L/B	L/C	L/D	
	LOW POTENTIAL	LOW POTENTIAL	LOW POTENTIAL	
			N/D	
			NO POTENTIAL	
	A	B	C	D
	LEVEL OF CERTAINTY →			

- | | |
|--|--|
| H High mineral resource potential | A Available data not adequate |
| M Moderate mineral resource potential | B Data indicate geologic environment and suggest level of resource potential |
| L Low mineral resource potential | C Data indicate geologic environment, give good indication of level of resource potential, but do not establish activity of resource-forming processes |
| U Unknown mineral resource potential | D Data clearly define geologic environment and level of resource potential and indicate activity of resource-forming processes in all or part of the area |
| N No known mineral resource potential | |

Diagram showing relationships between levels of mineral resource potential and levels of certainty. Shading shows levels that apply to this study area

MINERAL RESOURCE POTENTIAL MAP OF THE FISHHOOKS WILDERNESS STUDY AREA, GRAHAM COUNTY, ARIZONA