CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
Phoenix, AZ, 85012
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

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EAGLE TAIL DISTRICT

Location:

The Eagle Tail district or area as described by Keith (1978) essentially covers the Eagle Tail Mountains and Cemetery Ridge in the extreme southeast corner of La Paz County. The southeastern portion of the Eagle Tail Mountains extend into Maricopa County.

Geology and History:

The Eagle Tail Mountains are a NW-trending range composed mainly of Oligocene(?)-Miocene volcanic rocks. The range appears to be a fault block that has been rotated to the southwest as the Miocene volcanic rocks dip in that direction.

Pre-Tertiary granitic and metamorphic rocks occur at lower elevations along the NE flank of the range. These rocks include Precambrian or possibly Jurassic porphyritic granitic rocks that display variable amounts of weak foliation, and Mesozoic metasedimentary rocks. The metasediments vary from well-bedded, mica schists, quartzites and arkosic quartzites to massive meta-arkose which takes on an igneous appearance in Sections 17 and 18, T2N, R11W. A thin bed of marble occurs in the metasediment package in Section 17. The weakly foliated small bodies, dikes and sills of equigranular, non-foliate granodiorite to diorite are of Laramide age (51.6 m.y. K-Ar minimum age on partly chloritized biotite; Rehrig, unpubl. data). They may represent a southwest extension or end to the Wickenburg batholith (see Vulture district write-up).

Mid-Tertiary volcanic rocks overlie the pre-Tertiary basement and make up the main rock type of the range. The older volcanic rocks generally strike northwest and display variable dips to the southwest. These rocks consist of vitrophyric flows, thick ash-flow tuffs, tuffaceous breccias and pyroclastic deposits that resemble the volcanic section in the nearby Big Horn Mountains. A basal yellowish buff-colored tuffaceous sandstone or pyroclastic deposit lies nonconformably on the older rocks in part of the range. This volcaniclastic unit contains biotite phenocrysts that yields a 23 m.y. K-Ar date (Shafiqullah and others, 1980). This unit is similar to basal volcaniclastic deposits occurring in parts of the Big Horn, Vulture and Kofa ranges (Rehrig, unpubl. data).

A few isolated buttes on the NE side of the range and more extensive outcrops on the SW side of the Eagle Tail range consist of late Miocene flat-lying basalts which overlie the tilted older volcanic strata with angular unconformity. In Sections 20, 17 and 18, T2N, R11W, there occurs beneath the tuffaceous sandstone (described in the preceeding paragraph) a 500-1000 ft section of conglomerate with interbedded thin tuff beds and dacitic flows. This section is deposited on the older crystalline rocks. Clasts from one section of the conglomerate are of medium-grained quartz diorite to granodiorite that resembles certain phases of the Laramide Wickenburg batholith. Clasts within this wedge of conglomerate reach sizes of 2-3 meters. Other lenses contain clasts of a locally occurring meta-arkose and coarse-grained quartz monzonite porphyry. This conglomerate section pinches out within 1-2 miles along strike toward the SE and the yellowish volcanoclastic unit again rests directly on the older crystalline rocks (Rehrig, unpubl. data).

An intense swarm of porphyry dikes intrudes the pre-Tertiary rocks and the Tertiary volcanic section. These dikes and shallow plugs generally strike NW and commonly dip shallowly to moderately NE (about perpendicular to bedding). Others appear to be sills injected along volcanic bedding planes and dip SW. These dikes vary considerably in composition and texture: some are felsic and aphanitic, others are darker colored and porphyritic. Purplish rhyolite porphyry dikes yield a biotite age of about 20 m.y (Shafiqullah and others, 1980). These dikes look very similar to dikes in the Vulture Mountains that give a 16 m.y. whole rock K-Ar date.

Cemetery Ridge, reportedly named for the graves of prospectors killed in the 1870's (Keith, 1978), consists of a low, northwest-trending range of mostly interrupted and broken hills with gentle pediment slopes. The topography becomes more rugged in the northern and southern portion of the range. Mesozoic metamorphic rocks (mainly gneisses and schists) underlie most of the range. These rocks are overlain by Tertiary rhyolitic to basaltic volcanic rocks on the northern, southern and western portions of the range. Northwest-trending Tertiary rhyolite dikes and small plugs intrude the schist. Wilson (1933) made a reconnaissance of the area and noted schist along the western margin, granite intruding the schist, and numerous dikes of rhyolite and granite porphyry and some hornblendite.

Prospecting in the Eagle Tail district dates back to the mid-1860's and spotty mineralization has attracted sporadic prospecting since. Except for some hand picked 22% manganese ore, there is no reported production from the district (Keith, 1978). According to Wilson, the mineralization found along the northwest side of the Eagle Tail Mountains occurs as spotty base and precious metals shows. These are mostly oxidized and enriched near the surface, displaying a gangue of quartz, calcite and barite in fissure and fracture zones cutting the Tertiary volcanic rocks. Keith (1978) lists the Eagle Tail (Golden State) group in NW¼ Sec. 28, T2N, R11W, and the Gentry Lead-Silver mine in north-central Sec. 2, T1N, R11W as examples of this kind of mineralization. Keith (1978) notes that along Cemetery Ridge, weak copper mineralization with minor gold and silver has been prospected at several locations. This mineralization typically occurs with a gangue of iron and manganese oxides, quartz, gouge and brecciated wallrock along fractures and faults cutting Mesozoic schist, granite and Tertiary dikes. Wilson noted brittle, asbestiform actinolite in lensing veins in Mesozoic schist near irregular altered dikes associated with veinlets and masses of magnetite along Cemetery Ridge east of Deadman Tank. A color anomaly in Sec. 34, T2N, R11W attracted exploration attention during the porphyry copper days. It was explored by IP and a few shallow drill holes on the pediment just to the north. The anomaly is caused by dispersed, largely pyritic mineralization occurring within a thin band of metasediments caught between porphyritic granite (Jurassic?) and Laramide quartz diorite. Some of the Tertiary rhyolitic dikes have locally caused alteration and minor sulfides in adjacent country rocks (Rehrig, unpubl. data).

Another occurrence that may deserve looking at, if the area is examined, is the White Mountain property (located at intersection of Secs. 4, 5, 8, 9, T1N, R10W). ADMR files indicate that country rock in this area consists of gneiss that has been intruded by a semicircular stocklike mass of fine-grained intrusive rock that is roughly 900 x 1400 ft, elongated in a NE-SW direction.

Gneiss in this area is also fine grained, but can be distinguished by distorted quartz grains. Introduced quartz is reportedly present in both rocks as blebs and veinlets. The rock is said to carry 0.1-0.5% Cu and some gold and silver.

Finally, information from J. E. Spurr's records at the University of Wyoming's mining archives mentions a property in the Eagle Tail district. The abstract, dated June 13, 1912, lists no mine name or exact location, but simply describes the property as a vertical shaft 90 ft deep on a vein that dips 45°. The vein reportedly contained an ore shoot 600 ft long and 30 ft wide that was reported to run $8-$12/ton in free milling quartz. There was a possibility that the mineralized zone extended farther.

In reality, there is very little geologic information, other than of a reconnaissance nature, known about Eagle Tail mineralization. The amount of intrusive activity in the district would seem to warrant some grass roots exploration efforts. Interestingly, the CRIB data show a Hg, Au, Ag property (the Nations Mercury location) as occurring in the older volcanic section in the southeastern part of the range. On Plate 1, it would appear that it occurs at the northern end of a major dike swarm cutting the volcanic rocks. Unfortunately, the CRIB files give no information about this property. This would be a very interesting property to check out to see whether or not it exists and what the character of its mineralization might be.

References:

Keith, 1978; Rehrig, unpubl. report and field notes; Wilson, 1933.