

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

GEOLOGIC MAP OF THE TEELS MARSH QUADRANGLE, MINERAL COUNTY, NEVADA

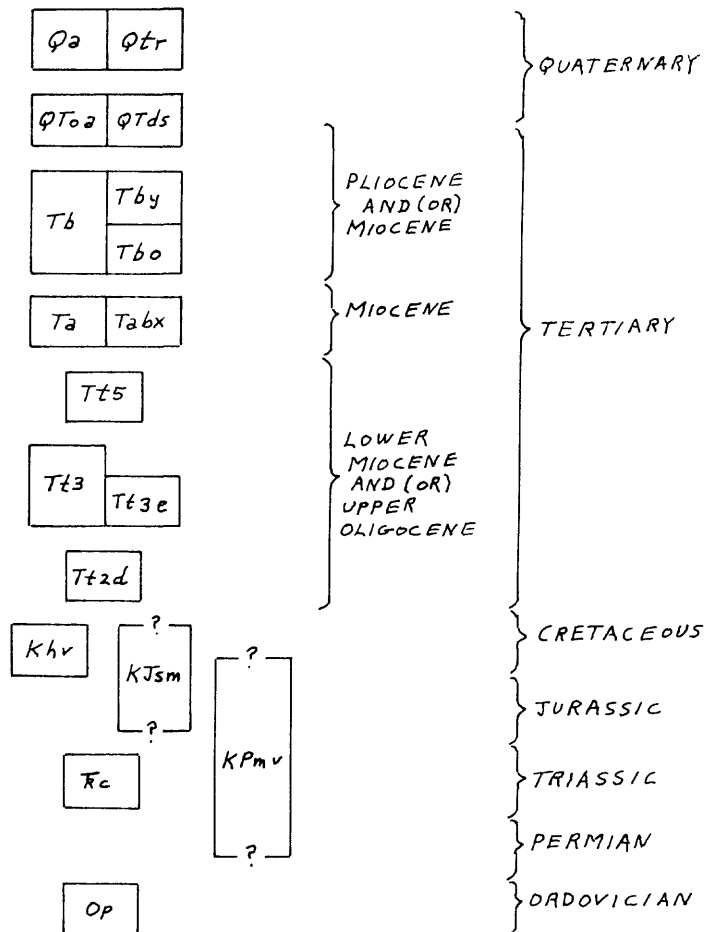
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Open-File Report 84-504

Prepared in cooperation with Nevada Bureau of Mines and Geology

This map is preliminary and has not  
been reviewed for conformity with  
U.S. Geological Survey editorial  
standards and stratigraphic  
nomenclature

# CORRELATION OF MAP UNITS - TEELS MARSH



Contact  
 Fault-- Dashed where inferred or approximately located; dotted where concealed; queried where uncertain. Bar and ball on downthrown side.

## DESCRIPTION OF MAP UNITS

### TEELS MARSH

- Qa ALLUVIAL DEPOSITS
- Qtr SPRING DEPOSITS--Travertine, sand, and alkali salts
- QToa OLDER ALLUVIAL DEPOSITS
- QTds DIATOMACEOUS(?) SEDIMENTARY ROCK--White; mixture of silt, clay, and probably diatoms; chaky consistency. Evenly bedded. As thick as 25 m locally. Contains molds of small gastropods in places
- Tb BASALT
- Tby YOUNGER BASALT--In eastern part of quadrangle. Realtive age of younger and older basalt based on apparent overlapping relations
- Tbo OLDER BASALT--In eastern part of quarangle
- Ta ANDESITE FLOWS AND FLOWS OF INTERMEDIATE COMPOSITION
- Tabx ANDESITE BRECCIA (LAHAR)--Contains some sandstone and conglomerate
- Tt<sub>5</sub> CANDELARIA JUNCTION TUFF OF SPEED AND COGBILL (1979)--Ash flow tuff, pale-red to grayish red; 18 percent crystals; plagioclase, sanidine, quartz in approximate proportions 2:2:3; sparse biotite; common flattened pumice; cliff forming; 22 to 24 m.y. old based on K-Ar dating (Speed and Cogbill, 1979). See Speed and Cogbill (1979) and Stewart (1979) for more detailed description
- Tt<sub>3</sub> ASH-FLOW TUFF AND SEDIMENTARY ROCKS--Few small outcrops in south-central part of quadrangle. Not examined in detail
- Tt<sub>3e</sub> TUFF OF EASTSIDE MINE--Very pale orange to pale yellowish brown; 15 percent crystals; plagioclase, sanidine, and quartz in approximate proportions 6:4:3; sparse biotite and opaque minerals; 5 percent lithic fragments as large as 8 cm in diameter composed of brown porphyritic lava, of aphanitic lava, and of sparse Paleozoic rocks. Common pumice. Mostly nonwelded to slightly welded. One outcrop in southwest part of quadrangle
- Tt<sub>2d</sub> METALLIC CITY TUFF OF SPEED AND COGBILL (1979)--Ash-flow tuff, dark gray in lower part, light gray in upper part; 25 percent crystals; plagioclase, sanidine, and quartz in approximate proportions 14:3:4; 2.7 percent biotite, sparse hornblende and opaque minerals; 1.6 percent rock fragments; cliff forming; 22 to 24 m.y. old based on K-Ar dating (Gilbert and others, 1968). See Speed and Cogbill (1979) and Stewart (1979) for more detailed descriptions

- Khv GRANODIORITE OF HUNTOON VALLEY--Light- to medium-gray medium- to coarse-grained equigranular to porphyritic hornblende biotite granodiorite. Average mineral composition, in percent: quartz (19), potassium feldspar (17), plagioclase feldspar (49), mafic minerals (15). Distinguished from adjacent plutonic rocks by a gray topsoil and biotite flakes as large as 8 mm across. Sodic andesine ( $An_{32}$ ) crystals are subhedral to euhedral, as long as 4.5 mm, and show normal zoning; cores of some of crystals are sericitized. Myrmekite is uncommon. Microcline and microcline perthite are subhedral and as long as 1 cm. Quartz is as large as 3 mm in diameter. Brown biotite, as much as 8 percent of rock, occurs in cores of hornblende crystals and as individual flakes as large as 8 mm. Green hornblende, as much as 6 percent of rock, and averaging 3 percent is subhedral to euhedral and as long as 3.5 mm. Small amounts of green chlorite occur as distinct flakes or alteration products of biotite. Other minerals observed in small amounts (1 percent or less) include magnetite, sphene, and apatite. K-Ar ages of 86 m.y. (biotite) and 100 and 101 m.y. (hornblende) were obtained from samples collected in Rattlesnake Flat and Huntoon Valley quadrangles (Evernden and Kistler, 1970, loc. nos. 238, 239)
- KJsm GRANITE OF SILVER MOON--Medium- to coarse-grained, leucocratic, color index about 3 or less. Composition, in percent, based on one modal analysis: quartz (30), plagioclase (31), potassium feldspar (36), mafic minerals (3)
- KPmv METAVOLCANIC ROCKS
- R c CANDELARIA FORMATION--Light-brown, pale-olive-brown, dusky-brown, yellow-brown to greenish-gray siltstone to very fine grained siltstone, micaceous, evenly laminated to very thin bedded. Conspicuous cleavage parallel to and, in places, across bedding. Sandstone is locally quartzitic. Coarse sandstone containing abundant dark-gray chert grains noted as float in one area. Gray chert in layers from 2.5 to 7.0 cm thick, occurs in one area. Contact with Palmetto Formation at color change from gray and black of Palmetto to brown of Candelaria. In detail, contact is not distinct, and no conglomerate occurs near contact. Palmetto contains more chert and quartzite than Candelaria and appears to be more contorted than Candelaria
- Op PALMETTO FORMATION--Light-gray shale and medium- to dark-gray bedded chert. Sparse yellow-brown fine-grained quartzite that locally contains medium to coarse quartz grains. Unit is locally highly contorted

#### REFERENCES CITED

- Evernden, J. F., and Kistler, R. W., 1970, Chronology of emplacement of Mesozoic batholithic complexes in California and western Nevada: U.S. Geological Survey Professional Paper 623, 42 p.
- Gilbert, C. M., Christiansen, M. N., Al-Rami, Y., and Lajoie, K. R., 1968, Structural and volcanic history of Mono Basin, California-Nevada, in Coats, R. R., Hay, R. L., and Anderson, C. A., eds., Studies in volcanology: Geological Society of America Memoir 116, p. 275-329.
- Speed, R. C., and Cogbill, A. H., 1979, Cenozoic volcanism of the Candelaria region, Nevada--Summary: Geological Society of America Bulletin, v. 90, p. 143-145.
- Stewart, J. H., 1979, Geologic map of the Miller Mountain and Columbus quadrangles, Mineral and Esmeralda Counties, Nevada: U.S. Geological Survey Open-File Report 79-1145.