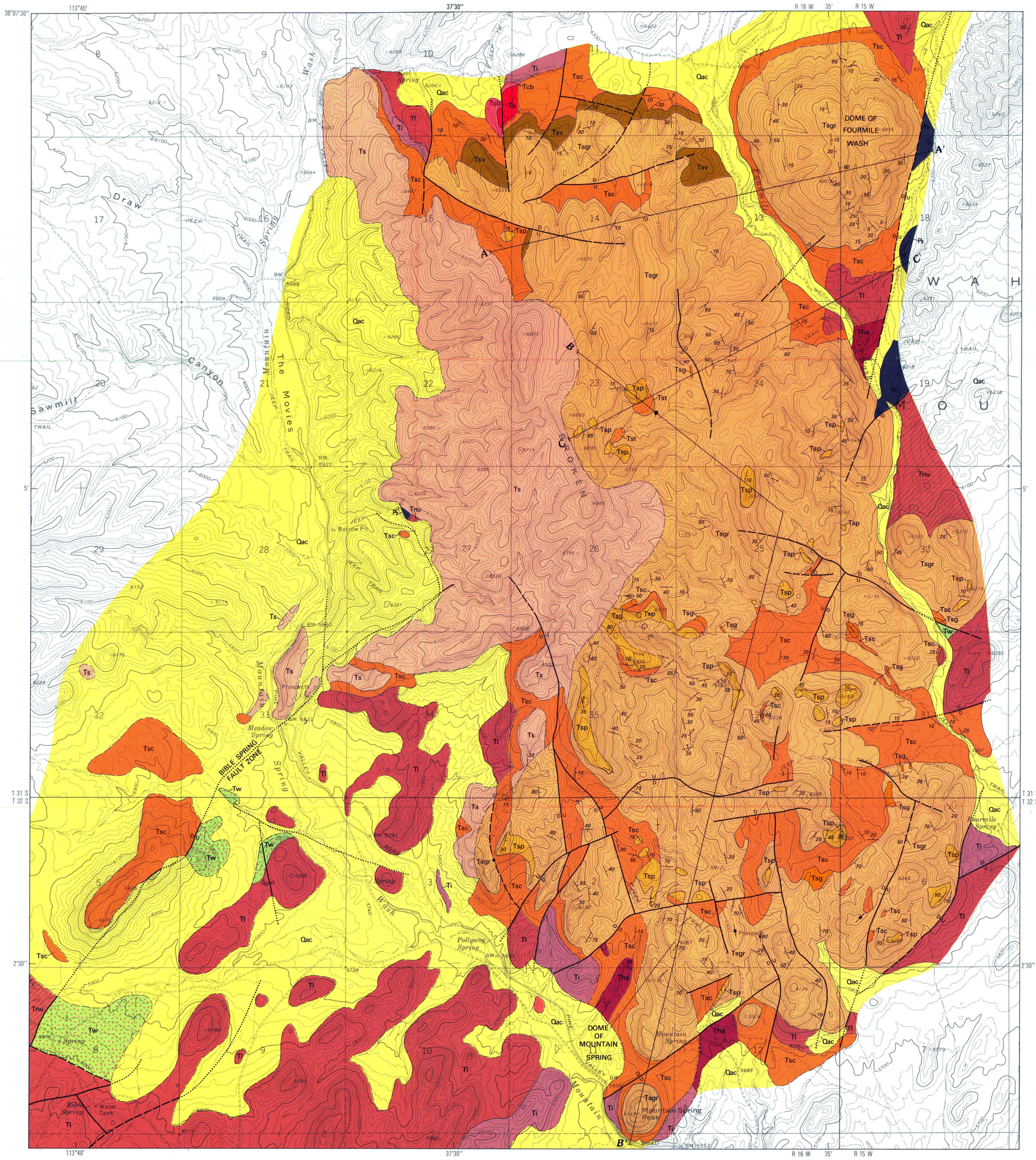
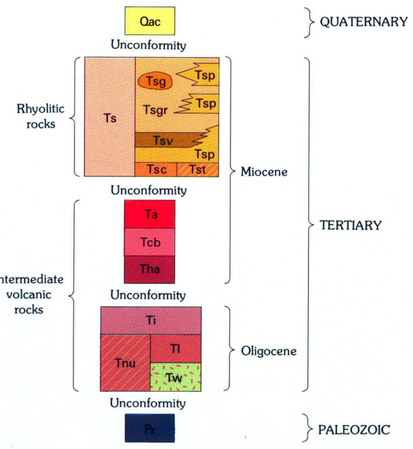
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

BULLETIN 1843
PLATE 1



CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

Qac **Alluvium and colluvium (Quaternary)**—Silt, sand, gravel, and talus

Ts **Steamboat Mountain Formation (Miocene), undivided**—Rhyolite units; age 12–13 m.y. (Best and others, 1987)

Tsgr **Gray rhyolite**—Gray to light-purple, weakly flow layered rhyolite; includes aphyric gray rhyolite, flow-layered rhyolite with 10 percent phenocrysts and a phenocryst-rich (as much as 35 percent) rhyolite; phenocrysts include quartz, sanidine, and plagioclase. Locally contains abundant lithophysae and vugs filled with secondary quartz and topaz; interlayered with flows of rhyolite member of Pine

Tsg **Green glass**—Vertically flow layered, partially hydrated and devitrified green glass

Tsv **Basal vitrophyre**—Gray to black, phenocryst-rich basal or marginal vitrophyre, locally containing an ash-flow tuff unit; thickness 30 m

Tsp **Rhyolite member of Pine**—Dense, red-brown, strongly flow layered and autobrecciated rhyolite; thickness averages 30 m

Tsc **Silicic clastic rocks**—Buff to pink, pyroclastic and epiclastic rocks consisting of a heterogeneous sequence of weakly welded ash-flow and airfall tuffs; locally contains slope wash and reworked water-deposited epiclastic rocks; mostly underlies rhyolite flow rocks but is locally interfingered with them; thickness a few meters to 30 m

Tst **Vent tuff**—Tan breccia made up of angular fragments of green glass and pumice as much as 1.3 cm in diameter

Ta **Andesite (Miocene)**—Red-brown felsitic matrix with plagioclase and pyroxene phenocrysts

Tcb **Bauers Tuff Member of the Condor Canyon Formation (Miocene)**—Gray, buff, and lavender firmly welded ash-flow tuff with plagioclase, sanidine, and biotite phenocrysts; age 22 m.y. (Fleck and others, 1975)

Tha **Hornblende andesite (Miocene)**—Gray, phenocryst-poor to aphyric andesite with hornblende and lesser augite; thickness 50–100 m

Ti **Isom Formation (Oligocene)**—Densely welded red-brown ash-flow tuff with plagioclase and minor pyroxene; a few tens of meters thick; age 26 m.y.

Tnu **Needles Range Group (Oligocene), undivided**

Tl **Lund Formation**—Crystal-rich ash-flow tuff with quartz, biotite, and minor hornblende; age 27.9 m.y.

Tw **Wah Wah Springs Formation**—Crystal-rich ash-flow tuff with abundant plagioclase, hornblende, and biotite and less than 25 percent quartz phenocrysts; age 29.5 m.y. (Best, 1979)

Pz **Sedimentary rocks (Paleozoic), undivided**—Marine and continental sedimentary rocks

Contact—Dashed where approximately located; queried where uncertain

Fault—Dashed where approximately located; dotted where concealed; U, upthrown side; D, downthrown side

Strike and dip of flow-banding and bedding
- **Inclined** (25)
- **Vertical**
- **Inferred direction of flow** (65)

Strike and dip of joints
- **Inclined** (80)
- **Vertical**

Approximate location of tin vein

Base from U.S. Geological Survey
Mountain Spring Peak, 1972
Bible Spring, 1971

APPROXIMATE MEAN DECLINATION, 1989

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

MAP SHOWING GEOLOGY OF THE BROKEN RIDGE AREA, SOUTHERN WAH WAH MOUNTAINS, IRON COUNTY, UTAH