GEOLOGIC MAP OF THE BIG HORN AND BELMONT MOUNTAINS, WEST-CENTRAL ARIZONA

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Scale 1:50,000

1 1 0 1 2 3 4 MILES
3000 0 3000 6000 9000 12000 15000 18000 21000 FEET
1 0 1 2 3 4 5 KILOMETERS

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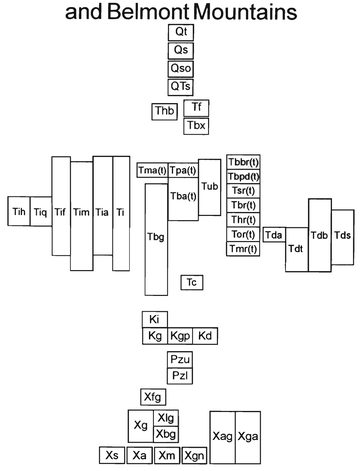
Geology Mapped in 1984-1993

CONTOUR INTERVAL 40 FEET

Correlation of Map Units, Big Horn and Belmont Mountains



SYMBOLS

PLANAR FEATURES; strike and dip

Broken and wavy lines may be used to indicate approximate measurments or curviplanar foliation in conjunction with any symbol

BEDDING

upright vertical overturned

Generic foliation in metamorphic rocks

CONTACTS

Solid lines indicate precise location, dashed lines approximate location, dashed with queries very approximate, and dotted inferred beneath younger blanketing or intrusive units.

intrusive or depositional contact

FAULTS

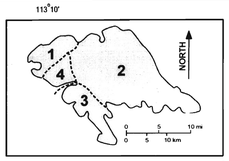
HIGH-ANGLE (ball on down-thrown side, arrow indicates dip)

LOW-ANGLE normal fault, barbs on hanging wall

MISCELLANEOUS

Tie line joining regions underlain by same map unit

Sample location



Sources of Mapping (unpublished unless complete reference given). Source maps for most areas overlap at the boundaries.
1. S. M. Richard, 1987; G. B. Allen, 1985; minor revisions by S. J. Reynolds and J.A. Stimac, 1991.
2. R. C. Capps, S. J. Reynolds, C. P. Kortemeier, J. A. Stimac, E. A. Scott, and G. B. Allen, 1985, Preliminary geologic maps of the eastern Big Horn and Belmont Mountains, west-central Arizona, Az. Bur. Geol. Min. Tech., Open-File Rpts. 85-14, 1:24000, 25 p;. Revisions by J. A. Stimac and S. J. Reynolds, 1991, and S. M. Richard, 1993.
3. J. A. Stimac, 1991, 1992; Floyd Gray and R. J. Miller, 1986.
4. J. A. Stimac, 1991, 1992.

Base from U.S. Geological Survey Aguila, Belmont Mtns., Big Horn Mtns., Gladden, Lone Mtn., and Vulture Mtns. 1:62500 topographic quadrangle maps

Map Units

Quaternary
- Qt **Talus**
- Qs **Undivided alluvial sediments**
- Qso **Older alluvium**
- QTs **Old Alluvium**

Miocene
- Thb **Hot Rock Basalt**
- Tf **Fanglomerate**
- Tbx **Megabreccia and sedimentary breccia**

Burnt Mountain volcanics
- Tma(t) Moon Anchor Andesite
- Tpa(t) Pump Mine Wash andesite
- Tub Aphyric basalt
- Tba(t) Burnt Mountain andesite member

Big Horn volcanics
- Tbbr(t) Beer Bottle rhyolite
- Tbpd(t) Big Horn Peak dacite
- Tsr(t) Sugarloaf rhyolite
- Tbr(t) Blue Hope rhyolite
- Thr(t) Hummingbird rhyolite
- Tor(t) Old Camp rhyolite and dacite
- Tmr(t) Morningstar rhyolite

Dead Horse formation
- Td(b) basalt
- Tdt tuff
- Tds sandstone and conglomerate
- Tda andesite
- Ti **Felsic intrusive rocks**
- Tiq Quartz-rich rhyolite
- Tif Feldspar-rich rhyolite
- Tih Hornblende-bearing rhyolite
- Tia Aphyric rhyolite
- Tim **Mafic to intermediate intrusive rocks**
- Tbg **Belmont granite**

Miocene or Oligocene
- Tc **Sandstone and conglomerate**

Cretaceous
- Ki **Fine-grained felsic dikes**

Big Horn granodiorite
- Kg Main phase
- Kgp Porphyritic phase
- Kd Border phase

Permian and Pennsylvanian
- Pzu **Upper Paleozoic sediments, undivided**

Mississippian through Cambrian
- Pzl **Lower Paleozoic sediments, undivided**

Early Proterozoic
- Xfg **Equigranular granodiorite to monzogranite**
- Xbg **Biotite granitoid**
- Xlg **Leucogranite**
- Xg **Mixed granitoids**
- Xga **Mixed granitoids and amphibolite**
- Xag **Mixed amphibolite and granitoids**
- Xm **Mafic gneiss**
- Xa **Amphibolite**
- Xgn **Heterogeneous intermediate-composition gneisses**
- Xs **Schist and phyllite**