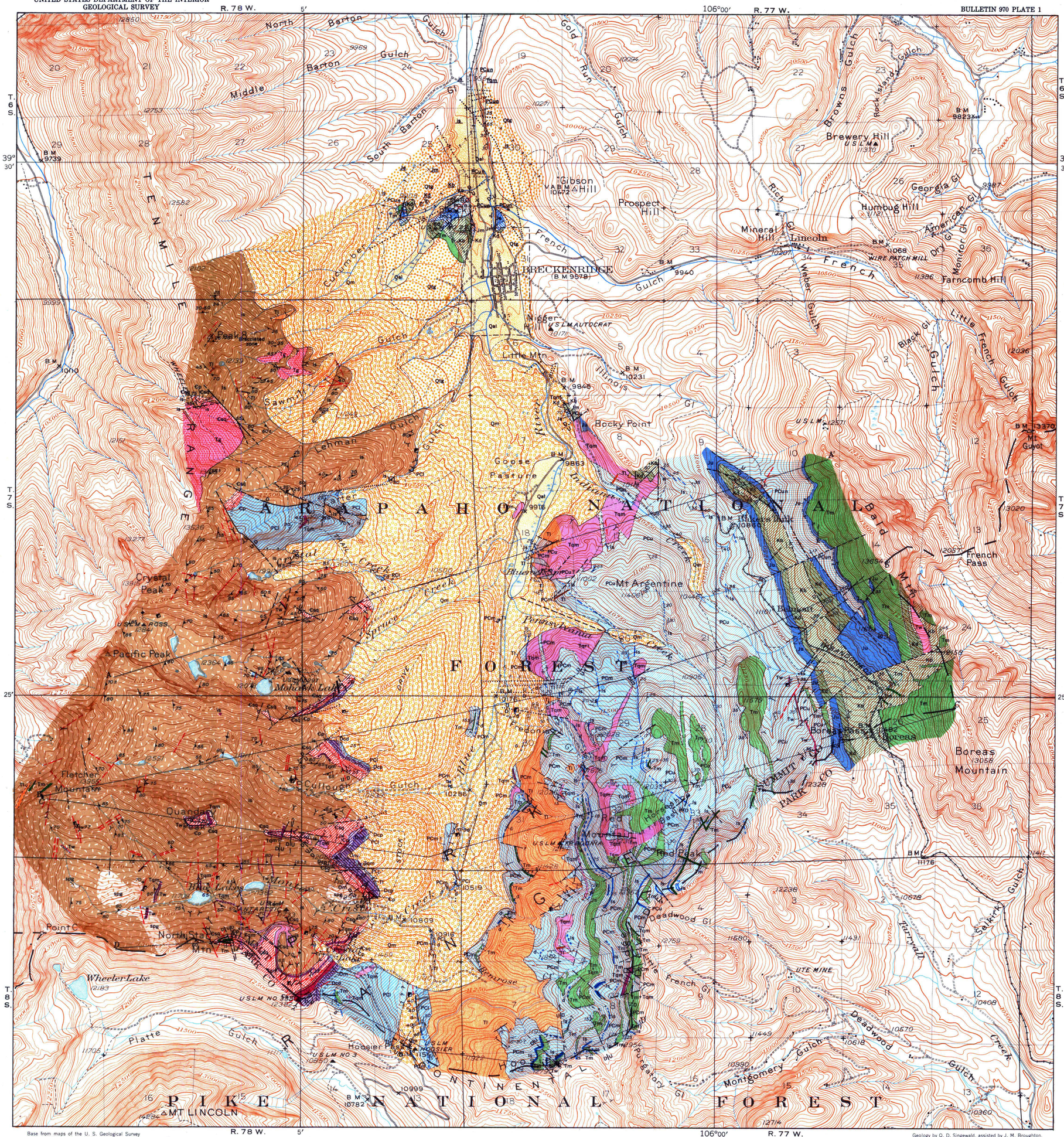


EXPLANATION

QUATERNARY

Pleistocene and Recent

- **Qal** — Alluvium

Pleistocene

- **Qm** — Glacial moraine
- **Qtg** — Terrace gravel

LATE CRETACEOUS OR EARLY TERTIARY

- **Tw** — White porphyry
- **Tg** — Granodiorite. *Plutonic rock in stock; contains large pink orthoclase similar to Lincoln porphyry*
- **Tl** — Lincoln porphyry. *Includes intervening sedimentary rocks where sills are numerous and closely spaced*
- **Tqm** — Quartz monzonite porphyry. *Includes intervening sedimentary rocks where sills are numerous and closely spaced*
- **Tm** — Monzonite porphyry. *In places grades into quartz monzonite porphyry. Includes intervening sedimentary rocks where sills are numerous and closely spaced*

CRETACEOUS

Upper Cretaceous

- **Kb** — Benton shale. *Possibly includes Niobrara and Pierre strata at some places. Black shale, locally with intercalated limestones*
- **Kd** — Dakota quartzite. *Light-colored quartzitic sandstone and intercalated black shale*

JURASSIC

- **Jm** — Morrison formation. *Red and variegated shales with limestone beds in lower part*
- **Je** — Entrada (?) sandstone. *Slightly quartzitic light-colored sandstone*
- **Ju** — Undifferentiated Jurassic rocks. *Includes Entrada (?) sandstone and Morrison formation*

CARBONIFEROUS AND PERMIAN

Pennsylvanian and Permian

- **ls** — Limestone. *Limestone beds or zones in the Pennsylvanian and Permian rocks*
- **d** — Dolomite. *Dolomite beds or zones in the Pennsylvanian or Permian rocks*
- **PCu** — Upper division. *Redbeds; micaceous and arkosic beds ranging from coarse conglomerate to shale, with intercalated limestones in a few places*
- **PCm** — Middle division. *Micaceous and arkosic beds ranging from coarse conglomerate to shale, with intercalated limestones in upper part and dolomites in lower part. Upper part red, lower part prevailingly nonred*
- **PCl** — Lower division. *Prevailingly nonred beds ranging from coarse conglomerate to shale, with intercalated dolomites in a few places. Excepting several sandstones in the lower part and certain black shales, clastic beds are micaceous and arkosic*
- **PCun** — Undifferentiated Pennsylvanian and Permian rocks. *Strata of thin section northeast of Boreas Pass fault*

DEVONIAN

Upper Devonian

- **Ddp** — Dyer dolomite member of the Chaffee formation. *White and pale-blue dolomite in fairly thin beds that weather to smooth surfaces*
- **Dcp** — Parting quartzite member of the Chaffee formation. *Pebbly limestone, limy conglomerate, and quartzose conglomerate; weathers grayish brown*

ORDOVICIAN

Lower Ordovician

- **Om** — Manitou dolomite. *Thin-bedded dolomite; weathers whitish gray with development of siliceous ribs*
- **DOCu** — Undifferentiated Devonian, Ordovician, and Cambrian rocks. *In sections only*

CAMBRIAN

Upper Cambrian

- **Cp** — Peerless formation. *Medium-grained to coarse-grained dolomite that weathers grey or medium brown and platy shale that weathers green; shale mainly in middle part*
- **Csq** — Sawatch quartzite. *White medium-grained quartzite; conglomerate at base*

PRE-CAMBRIAN

- **spg** — Silver Plume granite
- **is** — Idaho Springs formation. *Quartz-mica gneisses*

Underlined letter symbols shown in the Shock Hill area near Breckenridge, refer to bedrock formations concealed by surficial deposits determined from mine workings

Contact, dashed where position is inferred; dotted where concealed

Fault, showing dip, dashed where position is inferred; dotted where concealed. U, *upthrown side*; D, *downthrown side*

Vein, showing dip, dashed where position is inferred

Strike and dip of beds

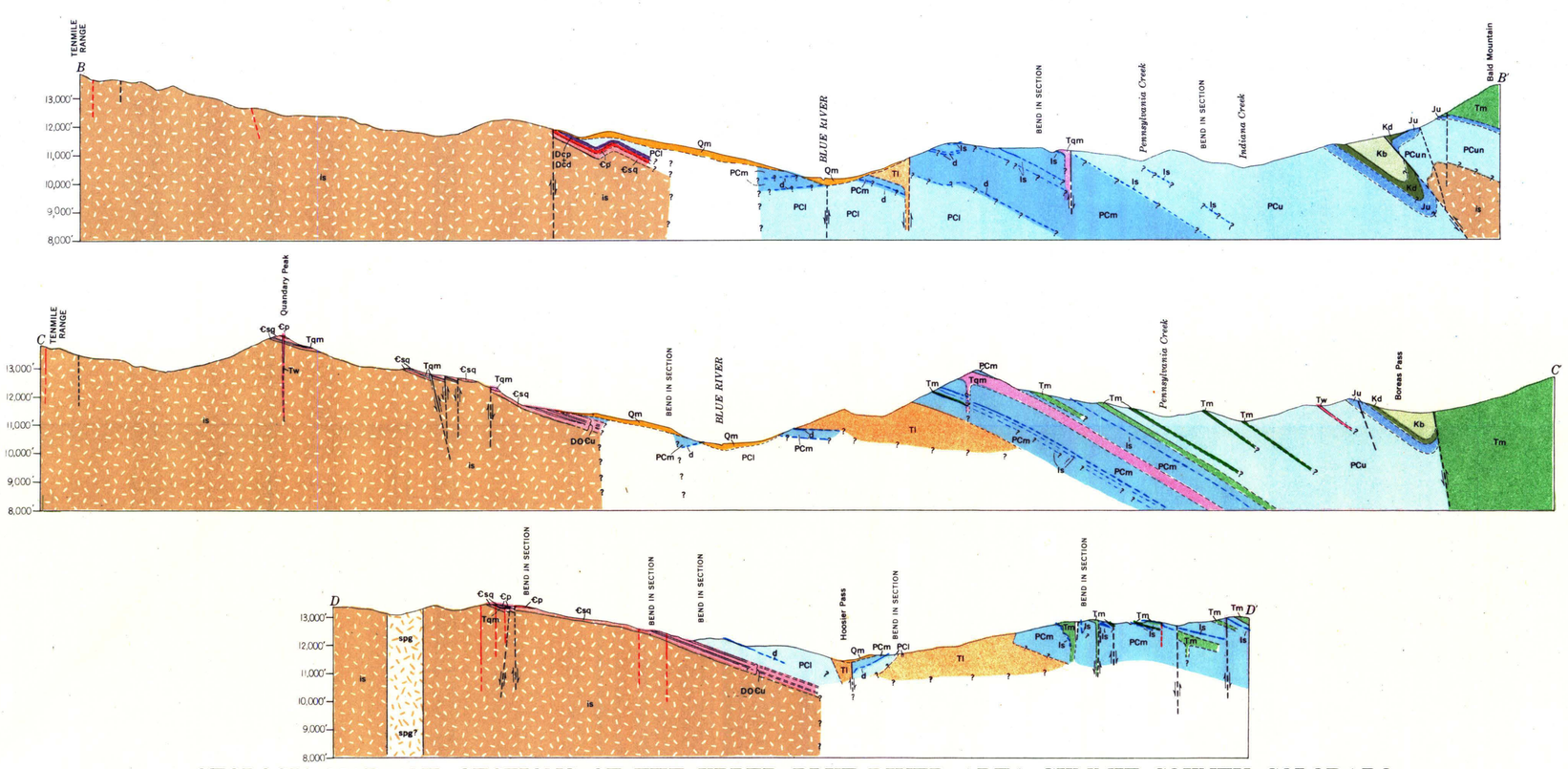
Strike and dip of foliation in gneiss

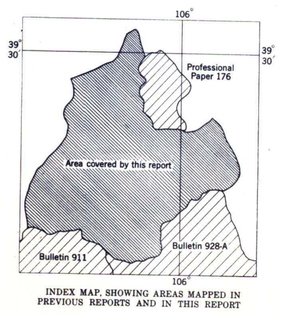
Strike of vertical foliation in gneiss

Mine or prospect pit

Tunnel

Shaft





INDEX MAP, SHOWING AREAS MAPPED IN PREVIOUS REPORTS AND IN THIS REPORT

GEOLOGIC MAP AND SECTIONS OF THE UPPER BLUE RIVER AREA, SUMMIT COUNTY, COLORADO

Scale $\frac{1}{48000}$

1 ½ 0 1 2 3 4 Miles

1000 500 0 1000 2000 3000 4000 5000 6000 7000 Yards

1000 0 3000 6000 9000 12000 15000 18000 Feet

1 .5 0 1 2 3 4 5 Kilometers

Contour interval 50 feet

Datum is mean sea level

TRUE NORTH
MAGNETIC NORTH
14½°
APPROXIMATE MEAN DECLINATION, 1938