DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

OPEN FILE
1967

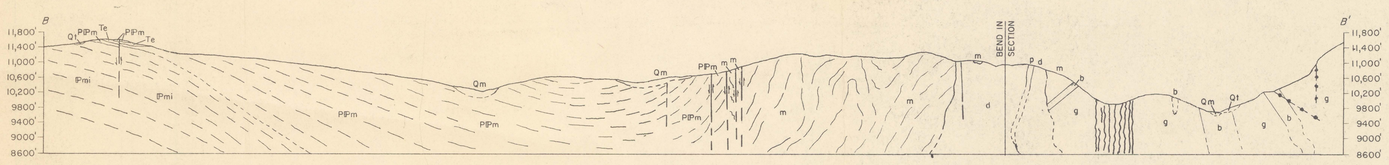
Preliminary base by U.S. Geological Survey

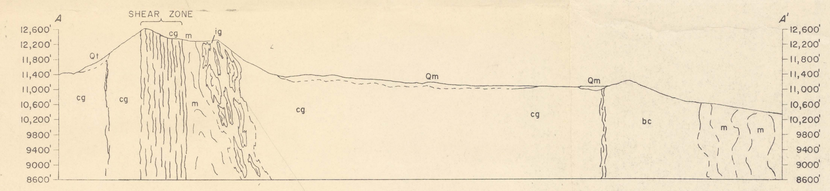
SCALE 1:24 000
½ 0 1 MILE
CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL

APPROXIMATE MEAN DECLINATION, 1967
TRUE NORTH
MAGNETIC NORTH
14½°

COLORADO
QUADRANGLE LOCATION

Geology by M.H. Bergendahl, 1964-66, assisted by J.E. Shearer, 1964, M.E. Gardner, 1965, and R.P. Smith, 1966





GEOLOGIC MAP AND SECTIONS OF THE DILLON SW QUADRANGLE, EAGLE AND SUMMIT COUNTIES, COLORADO

By

M. H. Bergendahl

E X P L A N A T I O N

QUATERNARY

Qt — Talus
Gravity accumulations of rock debris along steep slopes

Qal — Alluvium
Sand and gravel

Slump — Deposits of slumped bedrock and landslide material
Includes large blocks and finely comminuted material

Qm — Glacial moraine deposits
Unconsolidated glacial deposits of sand, gravel, and boulders; poorly sorted

TERTIARY

Te — Elk Mountain Porphyry
Sill of porphyritic quartz monzonite in southwest corner of quadrangle. Groundmass is aphanitic quartz and orthoclase with minor biotite and hornblende; phenocrysts are quartz, plagioclase, and locally biotite

TKq — Quartz monzonite porphyry
Dike along east-central boundary of quadrangle. Dark-gray aphanitic matrix; abundant phenocrysts of quartz and feldspar

PERMIAN CRETACEOUS OR TERTIARY

PPm — Maroon Formation
Red and reddish-brown arkose, mudstone, and conglomerate, with limestone beds as much as 10 feet thick. Ranges in thickness from a few feet to more than 1,000 feet

PENNSYLVANIAN

Pmi — Minturn Formation
Gray and red to reddish-brown arkose, mudstone, and conglomerate; a few limestone beds as much as 25 feet thick. Jacque Mountain Limestone Member at top of formation. Only uppermost 550 feet of formation is exposed

UNCONFORMITY

CAMBRIAN

Cs — Sawatch(?) Quartzite
White medium- to coarse-grained well-cemented sandstone composed almost entirely of rounded quartz grains that range in diameter from less than ½ to 3.5 mm. Occurs locally on Precambrian rocks in northwestern part of quadrangle

PRECAMBRIAN

cg — Granite of Cross Creek
Pink to gray porphyritic granite consisting of oligoclase, quartz, microcline, biotite, and muscovite, with apatite and zircon as accessory minerals. Volume of microcline ranges from zero in some specimens to 30 percent in others. Phenocrysts are oligoclase and microcline. Forms a large intrusive mass in northern part of area

ap — Aplite
Pink fine-grained dikes and irregular small masses intruded into granite of Cross Creek in northwestern part of area. Rock consists of quartz, sericitized plagioclase, and microcline; minor biotite and muscovite

lg — Injection gneiss
Intimate mixture of granite of Cross Creek and blocks of quartz-biotite-plagioclase gneiss in north-central part of area. Locally gneiss is replaced by granite to the extent that only wispy aggregates of biotite remain

p — Pegmatite
Dikes and podlike bodies of very coarse quartz, plagioclase, potassium feldspar, and biotite

sp — Silver Plume(?) Granite
Medium-grained intrusive rock composed predominantly of quartz, oligoclase, and microcline, with subordinate biotite and muscovite. Characterized by subparallel microcline laths 3-8 mm in length, a texture which characterizes the Silver Plume Granite of the Front Range. Found only as one small plug, 800 feet in diameter, about 1 mile southeast of center of quadrangle

bc — Boulder Creek(?) Granite
Dark-gray medium- to coarse-grained intrusive rock consisting of quartz, andesine, biotite, and minor hornblende. Potassium feldspar is not present. Rock is similar to granodiorites of the Front Range that have been correlated with the Boulder Creek Granite. Age relations of this rock with other granitic rocks of the quadrangle are not clear. Located in central and northeastern parts of area

d — Diorite
Medium- to coarse-grained dark-gray intrusive plugs in southeastern part of quadrangle. Dominant minerals are biotite, hornblende, and labradorite; quartz is minor

m — Migmatite
Metasedimentary gneiss consisting of alternate wavy layers of quartz-oligoclase-microcline rock and biotite-hornblende-plagioclase rock. Sillimanite is abundant locally; garnet occurs in some specimens

a — Amphibolite
Concordant lenses of hornblende-labradorite-quartz rock in Precambrian metasedimentary rocks in east-central part of area. Lenses are as much as 400 feet long and 100 feet wide

lg — Lime-silicate gneiss
Lenses of greenish foliated rock enclosed in migmatite in southeastern part of area. Clinopyroxene, hornblende, clinozoisite, quartz, carbonate, epidote, and microcline are the chief constituents but are present in variable amounts

mp — Porphyroblastic migmatite
Concordant masses of biotite-quartz-plagioclase gneiss, characterized by plagioclase porphyroblasts, ½ to 2 inches across, that range in composition from calcic oligoclase to sodic andesine. Present at southeastern border of area

b — Banded gneiss
Layered metasedimentary rock composed of alternate black and white bands ½ inch to several feet thick. Dark layers consist mainly of hornblende and andesine-labradorite, with minor quartz, biotite, chlorite, and clinopyroxene. White layers consist mostly of quartz and andesine-labradorite. Present in southeastern part of area

g — Granulite
Light-gray gneiss composed of quartz, oligoclase, microcline, and small amounts of biotite and hornblende. Lowermost of the stratified metasedimentary rocks. Present in southeastern part of area

Contact
Dashed where approximately located; dotted to indicate slump contact

Aval — Avalanche area

Fault
Dashed where inferred; dotted where concealed. U, upthrown side; D, downthrown side

Shear zone

82 Inclined — Overturned — Horizontal
Strike and dip of beds

PLANAR AND LINEAR FEATURES
Planar and linear symbols may be combined

29 Inclined — Vertical — Horizontal
Strike and dip of foliation

42 Inclined — Horizontal
Bearing and plunge of lineation

60
Vein, showing dip
Dashed where inferred

Shaft

Portal of tunnel or adit

Portal of caved tunnel or adit

Prospect pit