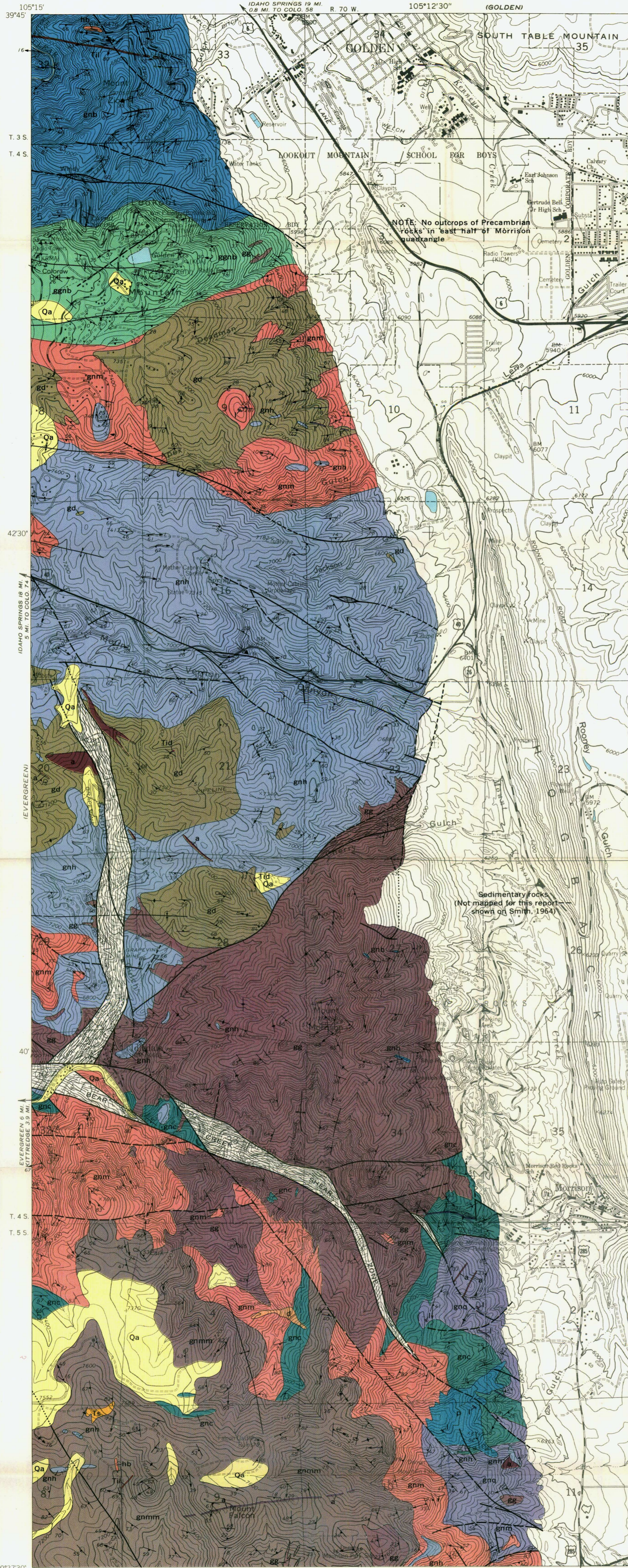


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GEOLOGICAL SURVEY
WASHINGTON



EXPLANATION

Qa
Alluvium and colluvium

Til
Biotite latite
Pinkish-gray fine-grained rock containing phenocrysts of biotite and plagioclase scattered sparsely throughout groundmass. Forms dikes 8-10 feet wide. Locally intensely iron stained

Tid
Diabase
Dark-gray, almost black, fine-grained dike rock consisting principally of labradorite and augite

Ts
Shonkinite
Fine- to medium-grained dark to speckled black and gray massive rock containing sandine, diopside, augite, biotite, and subordinate olivine

p
Pegmatite
Massive iron-stained dark to speckled black and gray massive rock containing sandine, diopside, augite, biotite, and subordinate olivine

l
Lamprophyre
Gray to black fine-grained weakly foliated minettes and vogesites that form narrow dikes

gg
Gneissic granodiorite and related rocks
gg, pink or mottled pink-and-gray medium- to coarse-grained pegmatitic gneissic granodiorite ranging in composition from quartz diorite to quartz monzonite. Inclusions in the gneiss range in thickness from thin biotite folia to 200-foot-wide lenses of biotite-quartz-plagioclase gneiss, amphibolite, and microcline-quartz-plagioclase-biotite gneiss
a, aplites associated with gneissic granodiorite

hb
Quartz diorite and hornblende
Black and mottled black-and-white coarse-grained nearly massive intrusive rocks. Includes some pegmatite
d, quartz diorite
hb, hornblende

gd
Granodiorite
Gray medium-grained foliated nearly equigranular rocks ranging in composition from quartz diorite to quartz monzonite. Includes some pegmatite

gnm gnm
Microcline-quartz-plagioclase-biotite gneiss
gnm, gray to buff medium-grained gneiss consisting of microcline-quartz-plagioclase and biotite, granitic in appearance. Locally interlayered with biotite gneiss and amphibolite
gnmm, mottled migmatitic microcline-quartz-plagioclase-biotite gneiss. Contains abundant pegmatites

gnq
Quartz-plagioclase gneiss
Medium-gray fine-grained thin foliated quartz-plagioclase gneiss. Locally intercalated with quartzite, biotite gneiss, and microcline-quartz-plagioclase-biotite gneiss

gnc
Cordierite-bearing biotite gneiss
Light-gray to very dark blue-gray fine- to medium-grained migmatitic and cordierite-bearing biotite-quartz-plagioclase ± garnet, ± sillimanite gneiss interlayered with cordierite-biotite gneiss, cordierite-gedrite-biotite gneiss, and biotite-quartz gneiss

gnh
Hornblende gneiss and amphibolite
Interlayered gray to black fine- to medium-grained gneiss. Hornblende gneiss is predominantly amphibolite containing layers of biotite-quartz-plagioclase gneiss, calc-silicate gneiss, and microcline-quartz-plagioclase-biotite gneiss. Amphibolite is dark-gray to black fine- to medium-grained rock consisting of hornblende and plagioclase

egnb
Garnetiferous biotite gneiss
Gray fine- to medium-grained garnetiferous biotite-quartz-plagioclase gneiss containing lenses and pods of amphibolite, sillimanitic biotite gneiss, and biotite gneiss. Includes abundant pegmatite

gnb
Biotite gneiss
Gray fine- to medium-grained migmatitic biotite-quartz-plagioclase gneiss. Locally contains thin lenses of hornblende and granodiorite

Contact, approximately located
Dashed where inferred; dotted where concealed

90 86
Fault, showing dip
Dashed where approximately located; short dashed where inferred; dotted where concealed

Shear zone

Anticline Syncline

Folds
Showing approximate trace of axial plane; dashed where inferred

35
Plunge of minor anticline

20
Plunge of minor drag fold

60 Vertical
Inclined Strike and dip of foliation

23
Direction and plunge of lineation
Planar and linear symbols may be combined

Age relations uncertain

Sequence uncertain

Order may not reflect age

QUATERNARY

TERTIARY (?)

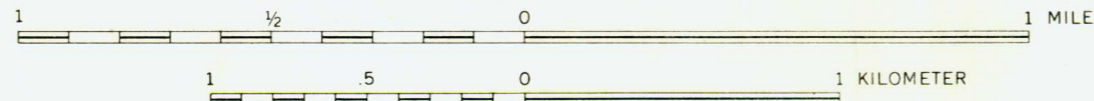
PRECAMBRIAN

Base from U.S. Geological Survey, 1965

INTERIOR—U.S. GEOLOGICAL SURVEY, WASHINGTON, D. C.—1968—667394

Geology mapped in 1962

SCALE 1:24 000



CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL



GEOLOGIC MAP OF THE PRECAMBRIAN ROCKS IN THE WESTERN PART OF THE MORRISON QUADRANGLE, JEFFERSON COUNTY, COLORADO