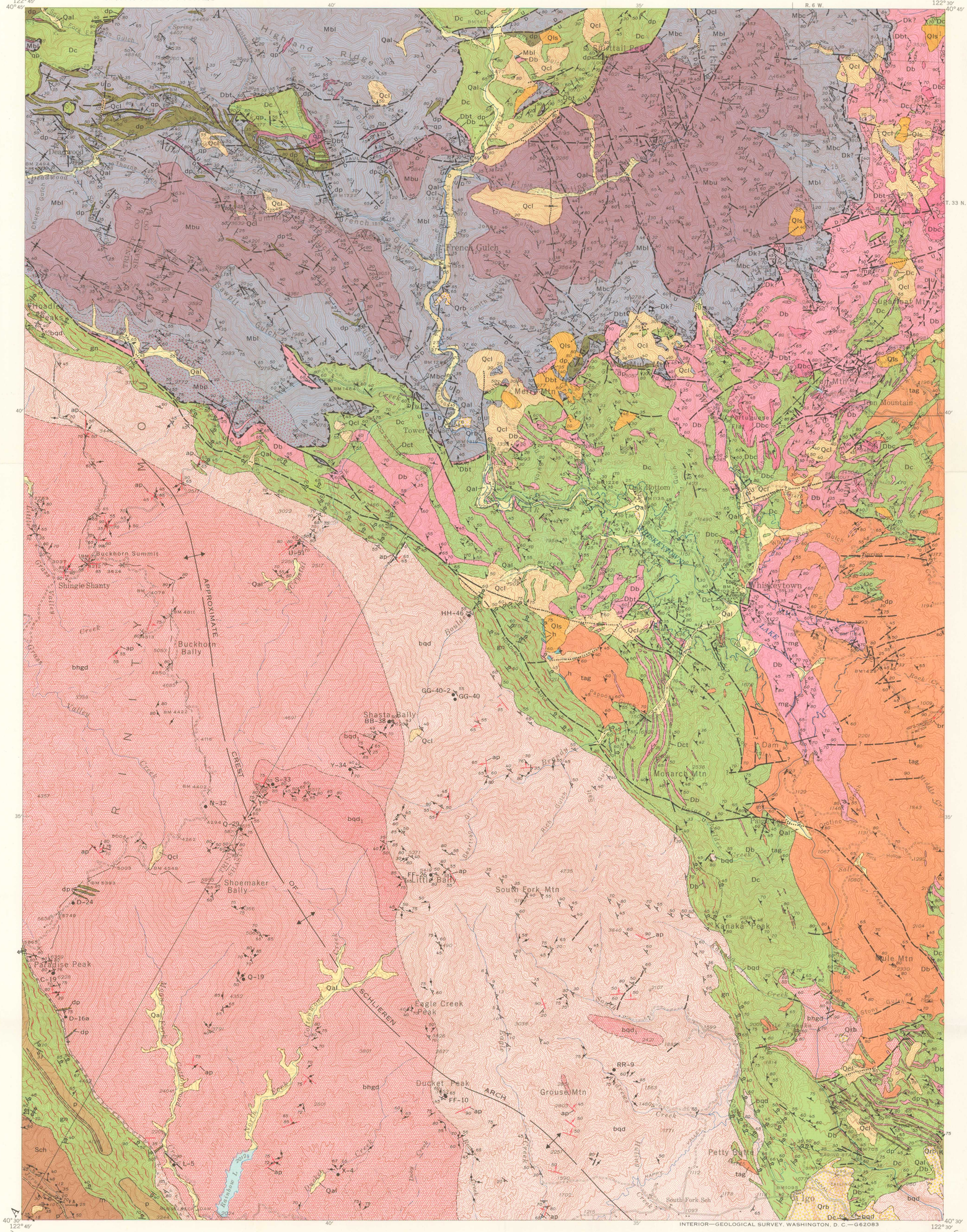
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BULLETIN 1141-J
PLATE 1



EXPLANATION

Recent

Qls, Qal, Qcl — **Unconsolidated deposits**
Qcl, *soil, slope wash, and talus (mapped only where bedrock geology is effectively obscured)*
Qal, *sand and gravel in stream beds*
Qls, *landslide*

UNCONFORMITY

Pleistocene

Qrb — **Red Bluff formation**
Older semiconsolidated gravels that may be correlative

QUATERNARY

UNCONFORMITY

K — **Conglomerate and sandstone**

CRETACEOUS

UNCONFORMITY

dp — **"Birdseye" porphyry**
Diorite porphyry, dacite porphyry, andesite porphyry

h — **Hornblendite**

qp — **Quartz porphyry**

ap — **Aplite dike, showing vertical and inclined attitude**

mg — **Metagabbro and lamprophyre dikes**

bhgd, bqd, bqd$_1$ — **Shasta Bally batholith**
bhgd, *biotite hornblende granodiorite and quartz diorite*
bqd, *coarse biotite granodiorite and quartz diorite*
bqd$_1$, *fine biotite granodiorite and quartz diorite*

gn — **Gneiss and amphibolite derived from Copley, Balaklala, and Bragdon formations**

in — **Injected rocks and breccia**

p — **Peridotite**

tag, br — **Mule Mountain stock**
tag, *trondhjemite and albite granite*
br, *intrusive breccia*

JURASSIC OR CRETACEOUS

UNCONFORMITY

Mbu, Mbl, Mbc, Mbp — **Bragdon formation**
Mbu, *upper unit consisting of abundant conglomerate and sandstone, interbedded with siltstone and shale*
Mbl, *lower unit consisting mostly of shale, mudstone, and siltstone, with subordinate tuff and conglomerate*
Mbc, *conglomerate bed in lower unit*
Mbp, *phyllite derived from Bragdon formation by contact metamorphism of Shasta Bally batholith*

MISSISSIPPIAN
CARBONIFEROUS

UNCONFORMITY

Dk? — **Kennett(?) formation**
Gray and black cherty shale

Dbc, Db, Dbt — **Balaklala rhyolite**
Dbc, *porphyritic quartz keratophyre containing quartz phenocrysts larger than 4 mm*
Db, *nonporphyritic quartz keratophyre and quartz keratophyre containing quartz phenocrysts ranging from <1 to 4 mm*
Dbt, *tuff and tuffaceous shale*
Units Dbc *and* Db *include much coarse volcanic breccia. The Balaklala rhyolite intertongues with and locally intrudes the Copley greenstone. Layers of greenstone interbedded in the Balaklala are mapped as Copley greenstone. Is also found as probable flows in Kennett(?) and Bragdon formations*

DEVONIAN

Dc, Dct — **Copley greenstone**
Dc, *keratophyre, spilite, and metaandesite (includes volcanic breccia and agglomerate facies)*
Dct, *tuff, shaly tuff, and shale*
The Copley greenstone intertongues with the Balaklala rhyolite and contains numerous sheets of quartz porphyry indistinguishable from the Balaklala. These are here mapped as Balaklala

DEVONIAN(?)

UNCONFORMITY(?)

Sch — **Abrams mica schist and Salmon(?) hornblende schist, undifferentiated**

PRE-SILURIAN

Contact, showing dip
Long dashed where approximately located; short dashed where indefinite; dotted where concealed

Fault, showing dip
Dashed where approximately located; queried where probable; dotted where concealed. U, upthrown side; D, downthrown side

Vertical fault

Spring Creek thrust
Mainly between Bragdon formation and underlying rocks, but in places between Copley greenstone and tuff of the Balaklala rhyolite. Sawteeth on upper plate. Queried where doubtful; dotted where concealed

Anticline, showing position of crest line
Dashed where approximately located

Syncline, showing position of trough
Dashed where approximately located, dotted where covered by slope wash or alluvium

Plunge of minor anticline

Plunge of minor syncline

Plunge of fold axis

Inclined / Vertical
Attitude of beds

Strike and dip of beds and plunge of lineation

Inclined / Vertical
Attitude of schistosity

Strike and dip of schistosity and plunge of lineation

Inclined / Vertical
Attitude of compositional layering in gneiss

Strike and dip of compositional layering in gneiss, and plunge of lineation

Inclined / Vertical
Attitude of primary flow banding in granitic rocks as shown by alined crystals or inclusions

Strike and dip of sheeting

Inclined / Vertical
Attitude of cleavage

Inclined / Vertical
Attitude of joints

L-5 — Location of sample plotted on figure 3, including 5 also listed in table 2

APPROXIMATE MEAN DECLINATION, 1964
TRUE NORTH
MAGNETIC NORTH

Base by Topographic Division
U.S. Geological Survey, 1944
Outline of Whiskeytown Lake, 1963

Geology by J. P. Albers, A. R. Kinkel, Jr., A. A. Drake, and W. P. Irwin, 1945–50 and 1956–57

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—G62083

GEOLOGIC MAP AND SECTION OF THE FRENCH GULCH QUADRANGLE, SHASTA AND TRINITY COUNTIES, CALIFORNIA

SCALE 1:62 500

1 ½ 0 1 2 3 4 5 MILES

1 5 0 1 2 3 4 5 KILOMETERS

CONTOUR INTERVAL 50 FEET
DATUM IS MEAN SEA LEVEL