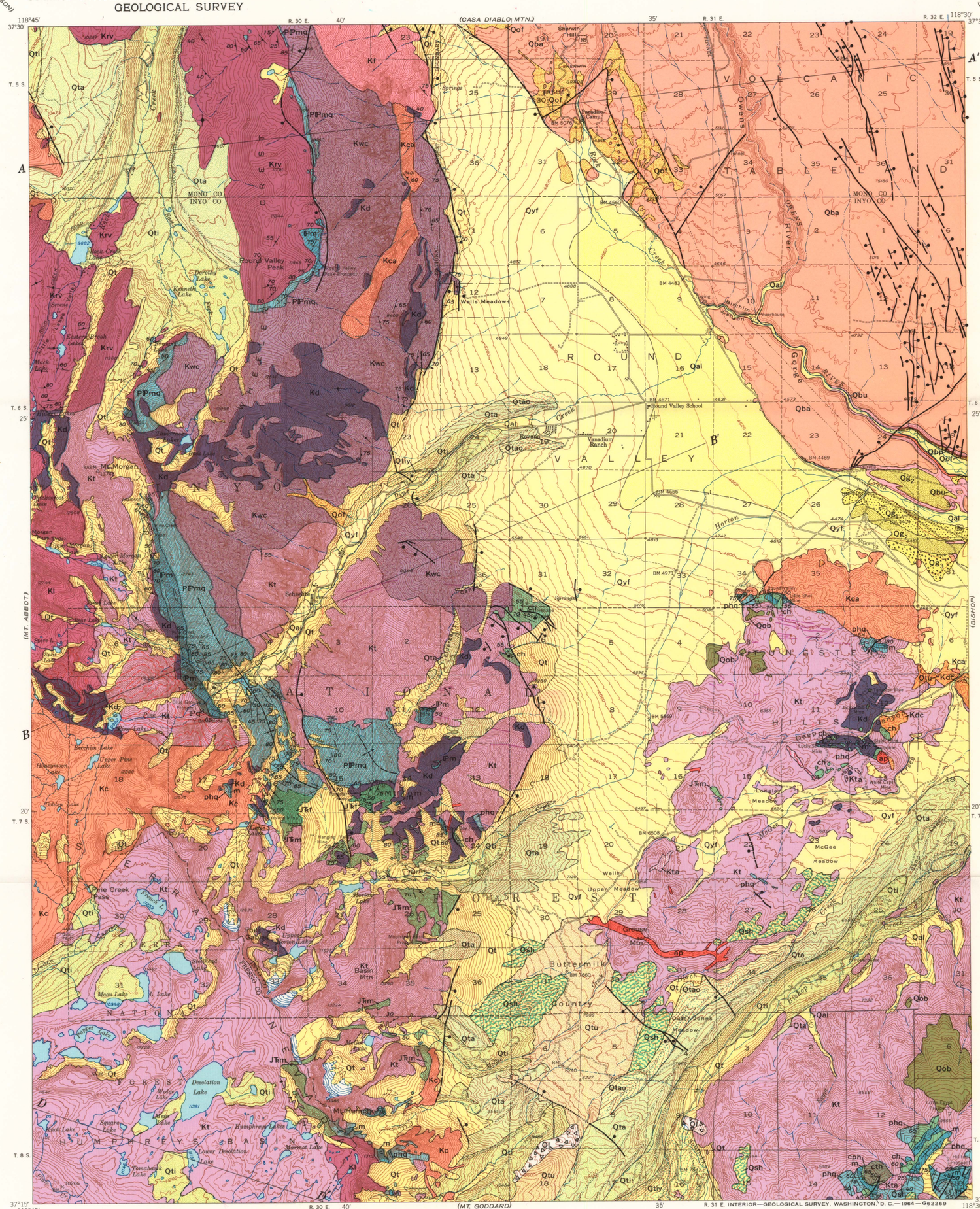

Base map by Topographic Division
U.S. Geological Survey, 1950;
modified 1963

Geology by Paul C. Bateman, assisted by
J. W. Reid and P. D. Proctor

R. 30 E. 40' (MT. GODDARD) 35' R. 31 E. INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—1964—G62269 R. 32 E. 118°30'

GEOLOGIC MAP OF THE MOUNT TOM 15-MINUTE QUADRANGLE, 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 80 FEET
DOTTED LINES REPRESENT HALF-INTERVAL CONTOURS
DATUM IS MEAN SEA LEVEL

TRUE NORTH
MAGNETIC NORTH
16½°
APPROXIMATE MEAN DECLINATION, 1964

EXPLANATION

QUATERNARY

Recent

Qal — Alluvial fill
May be, in part, of Pleistocene age

Qt — Talus
Includes rock glaciers and Recent moraines; ridge crests shown semidiagrammatically

Qyf — Younger alluvial fan deposits
May be, in part, of Pleistocene age

Ql — Landslide deposits
May be, in part, of Pleistocene age

Pleistocene

GLACIAL DEPOSITS

Qtiv, Qti — Tioga till
Qtiv, *deposits of younger advance delineated only along Bishop Creek and Pine Creek.*
Crests of moraines and other glacial ridges shown by dotted lines

Qtu — Undifferentiated till

Qg1, Qg2, Qg3 — Terrace gravels
Qg_1, *youngest and lowest, may be of Recent age*

Qof — Older dissected alluvial fan and lakebed deposits

Qta, Qtao — Tahoe till
Qtao, *deposits of older advance delineated locally. Crests of moraines and other glacial ridges shown by dotted lines*

VOLCANIC DEPOSITS

Qba, Qbu, Qbp — Bishop tuff
Qba, *hard agglutinated tuff*
Qbu, *soft tuff with rounded pumice fragments*
Qbp, *basal layer of white angular pumice*

Qob — Basalt dikes, necks, and dissected flows
May be of late Tertiary age

Qsh — Sherwin and older tills
Crests of probable morainal ridges shown by dotted lines

UNCONFORMITY

CRETACEOUS

GRANITIC ROCKS

ap — Felsic dikes and masses
Chiefly aplite, pegmatite, and alaskite. Part of dike swarm along Pine Creek that is marginal to quartz monzonite similar to the Cathedral Peak granite is shown diagrammatically by short dashed lines

Mafic dikes
Pre-Cathedral Peak; precise age uncertain

Kf — Finer grained quartz monzonites

Kc, Kca — Rocks similar to the Cathedral Peak granite
Kc, *quartz monzonite*
Kca, *alaskite*

Kt, Kta — Tungsten Hills quartz monzonite
Kta, *albitized rock: hydrothermally altered zones are shown by crosshatched pattern*

Kdc — Granodiorite of Deep Canyon
May be an early marginal facies of the Tungsten Hills quartz monzonite

Kl — Lamarck granodiorite

Krv — Round Valley Peak granodiorite

Kwc — Wheeler Crest quartz monzonite

Kd — Diorite, quartz diorite, and hornblende gabbro
Includes some hybrid rocks of granodiorite composition

METAMORPHIC ROCKS

METAMORPHIC ROCKS IN SMALLER MASSES

JTRm — Mafic metavolcanic rocks

m — Marble

ch — Calc-hornfels

phq — Pelitic hornfels, micaceous quartzite, and schist
(PALEOZOIC AND MESOZOIC)

PINE CREEK PENDANT AND ASSOCIATED SEPTA AND INCLUSIONS

TRIASSIC(?) AND JURASSIC

JTRm — Mafic metavolcanic rocks

JTRf — Felsic metavolcanic rocks

PENNSYLVANIAN(?) AND PERMIAN(?)

PIPmq — Micaceous quartzite

PIPm — Marble

PIPq — Pelitic hornfels, micaceous quartzite, and vitreous quartzite

CARBONIFEROUS(?)

MISSING INTERVAL

BISHOP CREEK PENDANT

LOWER PALEOZOIC(?)

cth — Metachert and andalusite-bearing pelitic hornfels

cph — Banded calc-hornfels and pelitic hornfels

Quartz veins and masses

Contact
Dashed where approximately located

Fault, showing dip
Dashed where approximately located; dotted where concealed

High-angle fault with scarp
Dashed where approximately located; dotted where concealed. Includes a few low-angle normal faults. Bar and ball on downthrown side

Anticline
Showing trace of axial plane. Dashed where approximately located

Syncline
Showing trace of axial plane. Dashed where approximately located

Strike and dip of beds

Strike of vertical beds

Strike and dip of primary foliation in granitic rocks

Strike of vertical primary foliation in granitic rocks

Horizontal primary foliation in granitic rocks