LIBRARY
GEOLOGIC DIVISION

EXPLANATION

SEDIMENTARY UNITS

QUATERNARY

Qdt | Qdc | Qdpa | Qdb
Eolian sand
Qdt, *transverse dunes*
Qdc, *climbing dunes*
Qdpa, *active parabolic dunes of accumulation*
Qdb, *barchans*

Qb
Lag gravels in blowouts

Qdpf | Qdl
Eolian sand
Qdpf, *fixed parabolic dunes of accumulation*
Qdl, *longitudinal dunes*

Qdpd
Eolian sand
Parabolic dunes of deflation

Qaf
Alluvial fans

Qm
Moraine deposits

Qrg
Rock glacier

Qls
Landslide deposits

QTsf
Alamosa (Pleistocene or Pliocene) and Santa Fe (Pliocene and middle? Miocene) Formations
Alluvial fan and pediment gravels, stream deposits, and volcanic debris

QTg
Alluvial gravels and sands

TERTIARY

Tdh
Devils Hole Formation
Light-gray conglomeratic tuff and conglomerate

UNCONFORMITY

Tf
Farisita Conglomerate
Buff conglomerate and sandstone

Tv
Vallejo Formation of Upson (1941)
Maroon conglomerate and agglomerate

UNCONFORMITY

Th
Huerfano Formation
Variegated maroon shale and red, tan, and white sandstone

UNCONFORMITY

Tc
Cuchara Formation
Red, pink, and white sandstone, and red, gray, and tan claystone

UNCONFORMITY

Tpc
Poison Canyon Formation
Buff arkosic conglomerate and sandstone, yellow siltstone, and shale

LOCAL UNCONFORMITY

CRETACEOUS

TKr
Raton Formation
Light-gray to buff sandstone, dark-gray siltstone, shale, and coal; conglomerate at base

Kv
Vermejo Formation
Dark-gray silty and coaly shale, buff to gray carbonaceous siltstone, and sandstone beds; coal

Kt
Trinidad Sandstone
Light-gray to buff sandstone

Kp
Pierre Shale
Dark-gray fissile siltstone and shale

Kn
Niobrara Formation
Yellow chalk and thin white limestone; light-gray limestone at base

Kcgg
Carlile Shale, Greenhorn Limestone, and Graneros Shale
Dark-gray shale, gray limestone, and gray shale

Kdp
Dakota Sandstone and Purgatoire Formation
Buff sandstone, buff conglomeratic sandstone, and dark-gray shale

Ku
Pierre Shale, Niobrara Formation, Carlile Shale, Greenhorn Limestone, and Graneros Shale undifferentiated

JURASSIC

Jmre
Morrison Formation, Ralston Creek(?) Formation, and Entrada Sandstone
Variegated maroon shale, gray limestone, red siltstone, gypsum, and gray sandstone

UNCONFORMITY

TRIASSIC(?)

Ŧjg
Johnson Gap Formation
Gray and red limestone conglomerate, limestone, sandstone, siltstone, and shale

PERMIAN

PIPsc | PIPc
Sangre de Cristo Formation
PIPsc, *red and gray conglomerate, arkose, sandstone, siltstone, shale, and gray limestone*
PIPc, *Crestone conglomerate phase of Melton (1925); maroon massive conglomerate facies*

PENNSYLVANIAN

IPm
Minturn Formation
Gray conglomerate, limestone, sandstone, siltstone, and shale

IPk
Kerber Formation
Dark-gray shale and limestone

UNCONFORMITY

ORDOVICIAN AND DEVONIAN

DOch
Chaffee Formation, Fremont Dolomite, and Harding Quartzite
Dark-gray dolomite and light- to dark-gray quartzite

IGNEOUS UNITS

EXTRUSIVE ROCKS

Recent — **QUATERNARY**

Qeb
Basic cinder cones and lava flows

Miocene, Pliocene, and Pleistocene — **QUATERNARY**

QTeb
Basic lava flows

Miocene(?) — **TERTIARY**

Teb
Basic lava flows

Tei
Intermediate lava flows and flow breccias

Eocene(?) to Oligocene(?) — **TERTIARY**

Tes
Silicic lava flows, flow breccias and tuff

Tebi
Basic to intermediate lava flows, flow breccias, and tuff

Teib
Basic to silicic lava flows, flow breccias, and tuff

INTRUSIVE ROCKS

Miocene to Pleistocene — **QUATERNARY**

QTib
Basic plug

Eocene and Oligocene — **TERTIARY**

Tis
Silicic stocks, sole injection, plugs, and dikes

Tii
Intermediate stocks, laccoliths, plugs, dikes, and sills

Tib
Basic plugs, dikes, and sills

Tiub
Ultrabasic dikes

PRECAMBRIAN

Basic to silicic dike swarms

bd
Biotite diorite

hd
Hornblende diorite

d
Diabase

g
Gabbro

METAMORPHIC UNITS

Eocene — **TERTIARY**

Tmi
Metamorphic and igneous complex
Quartzite, slate, hornfels, and basic intrusive rocks

Paleocene — **TERTIARY**

TKm
Quartzite, slate, and slightly altered sandstone

Upper Cretaceous — **CRETACEOUS**

Km
Slate and phyllite

Age relations not known — **PRECAMBRIAN**

agr
Alaskitic granite
Locally with migmatite, hornblende gneiss, and amphibolite

cgd
Gneissic granodiorite at Culebra Peak

gd
Granodiorite gneiss

qd
Quartz diorite gneiss

dg
Diorite gneiss

hgn
Hornblende gneiss and amphibolite

q
Metaquartzite

ms
Metasedimentary schist

mg
Metasedimentary gneiss

ah
Alaskitic granite gneiss, hornblende gneiss, and amphibolite

agd
Alaskitic granite gneiss and granodiorite gneiss

gdh
Granodiorite gneiss, hornblende gneiss, and amphibolite

Contact

Fault
Dashed where inferred. Bar and ball on downthrown side

Tear fault
Showing direction of relative movement

Thrust fault
T, *on upper plate*

Anticline | Syncline | Overturned anticline | Overturned syncline | Monocline

Folds
Showing axial trace and direction of plunge

5000
Structure contours
Drawn on top of Dakota Sandstone. Dashed where control is inadequate. Contour interval 250 and 500 feet

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