DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

WORK DONE IN COOPERATION WITH THE
CALIFORNIA DIVISION OF MINES AND GEOLOGY

OPEN FILE MAP

EXPLANATION

QUATERNARY

Holocene

Qas

Silt and sand in Amargosa River channels

Pleistocene and Holocene

Qal

Alluvium
Includes some talus rubble

Pleistocene

Qao — Older alluvium
Includes some talus rubble

Ql — Lacustrine limestone
Includes some clastic rocks

UNCONFORMITY

TERTIARY AND QUATERNARY(?)

Pliocene and Pleistocene(?)

QTf, QTfl, QTfx, QTfh

Funeral Formation
QTf, conglomerate, poorly lithified
QTfl, lower member; predominantly well-lithified conglomerate. Includes sedimentary breccia (QTfx) and large blocks derived from the following Paleozoic formations: Hidden Valley (QTfh), Ely Springs (QTfes), Eureka (QTfe), Pogonip (QTfp), Nopah (QTfn), Bonanza King (QTfr)

TERTIARY

Pliocene

Tf, Tfc, Tfx, Tfc

Furnace Creek Formation
Tf, predominantly lacustrine mudstone and sandstone; very minor limestone
Tfc, conglomerate, intertonguing through much of the section
Tfx, sedimentary breccia; angular clasts range in size through gravel to large blocks of undesignated Paleozoic formations in megabreccia in Red Amphitheater, where adjacent blocks of designated formations are part of the megabreccia emplaced into the Furnace Creek

Ts, Tls, Tc, Tx

Lacustrine and fluviatile rocks
Interlayered units, generally considered to be older than the Furnace Creek Formation; in Red Amphitheater, possibly equivalent to the Furnace Creek or lower member of the Funeral Formation
Ts, sandstone, partly pebbly; mudstone, partly tuffaceous
Tls, limestone and marlstone, predominant
Tc, conglomerate
Tx, sedimentary breccia

MAJOR UNCONFORMITY

MISSISSIPPIAN

Mp

Perdido Formation

Mt

Tin Mountain Limestone

DEVONIAN

Middle and Upper Devonian

Dl

Lost Burro Formation

SILURIAN AND DEVONIAN

Silurian and Lower Devonian

DSh, DShu, DShl

Hidden Valley Dolomite
DShu, upper, light-gray dolomite; Early Devonian fossils in uppermost part
DShl, lower, darker-gray, cherty dolomite; Silurian fossils

ORDOVICIAN

Middle and Upper Ordovician

Oes

Ely Springs Dolomite

Middle Ordovician

Oe

Eureka Quartzite

Lower and Middle Ordovician

Op

Pogonip Group

CAMBRIAN

Upper Cambrian

Єn

Nopah Formation

Middle and Upper Cambrian

Єr, Єp

Bonanza King Formation
Єr, Banded Mountain Member
Єp, Papoose Lake Member

Lower and Middle Cambrian

Єc

Carrara Formation

Lower Cambrian

Єz

Zabriskie Quartzite

Єwu, Єwm, pЄwl, ЄpЄw

Wood Canyon Formation
Єwu, upper member; Early Cambrian fossils at base
Єwm (read ЄpЄwm), middle member; Cambrian and Precambrian by regional correlation
pЄwl, lower member; Precambrian by regional correlation
ЄpЄw, members undesignated

PRECAMBRIAN

pЄsu, pЄsm, pЄsl

Stirling Quartzite
pЄsu, upper member
pЄsm, middle member
pЄsl, lower member

pЄj

Johnnie Formation

Note: The suffix x on a symbol for any pre-Tertiary formation designates a mass containing structural disorder from re-emplacement during the Tertiary

Marker bed
Numbers refer to informal units in the Pogonip Group and the Nopah Formation

Contact
Dashed where approximately located

Fault, showing dip
Dashed where approximately located or inferred; dotted where concealed. U, upthrown side, D, downthrown side. Arrows indicate relative lateral movement

Thrust fault, showing dip
Dashed where approximately located. Sawteeth on upper plate

Horizontal — Inclined (40) — Vertical — Overturned (70)
Strike and dip of beds

Landslide fracture
Dashed where approximately located. Hachures on landslide side

Base from U.S. Geological Survey, 1:62,500, 1952

SCALE 1:31 680
1 ½ 0 1 MILE
1 .5 0 1 KILOMETER
CONTOUR INTERVAL 80 FEET
DATUM IS MEAN SEA LEVEL

Geology mapped in 1956-70

This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey standards and nomenclature.

16°
TRUE NORTH
MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 1952

PRELIMINARY GEOLOGIC MAP OF THE FUNERAL MOUNTAINS IN THE RYAN QUADRANGLE DEATH VALLEY REGION, INYO COUNTY, CALIFORNIA

BY

JAMES F. MCALLISTER

1971

CALIF
QUADRANGLE LOCATION