



EXPLANATION

SEDIMENTARY ROCKS

QUATERNARY

Recent

Qsa
Silty alluvium
White to light-gray and buff silt, in part sandy and clayey; mostly alluvium along Reese and Humboldt River flood plains, but some wind-deposited material included

Qya
Younger alluvium
Stream and fan gravels and interbedded sand and silt layers; chiefly in valley bottoms and lower parts of alluvial fans; gravels grade outward from Battle Mountain range into sands and silts

Qoa
Older alluvium
Fan gravels, partly dissected, on flanks of Battle Mountain range. Also includes alluvium in upper parts of valleys

Qob
Older gravels
Gravels capping high-level benches and ridges. Well-washed and in part rounded gravels composed largely of quartzite, chert, conglomerate, and quartz latite boulders

PLIOCENE(?) and PLEISTOCENE(?)

QTb
Basalt flows
Black dense and vesicular lava in thick flows. Rude columnar jointing in places. Locally rest on washed gravels, probably valley fill

Tal
Quartz latite
Welded crystal tufts generally consisting of a basal pyroclastic unit (Tp₁) of variable thickness that grades upward into vitrophyre 20-30 feet thick and then into aphanitic quartz latite

Upper Miocene(?)

Tw
Welded tuff and pyroclastics
Gray to reddish brown welded tuff with basal pyroclastic unit (Tp₂) in places

MAJOR EROSIONAL UNCONFORMITY

INTRUSIVE ROCKS

Tmp Tdp
Porphyry
Tmp, quartz monzonite porphyry
Tdp, granodiorite porphyry
Light to dark-gray tuffaceous rock containing phenocrysts of quartz, andesine, orthoclase, and biotite. Includes some diorite dikes

Tm Tgd Tqd
Monzonite, granodiorite, and diorite
Tm, quartz monzonite
Tgd, granodiorite
Tqd, quartz diorite
Medium- to light-gray medium- to coarse-grained intrusive rocks

Upper Eocene

Tk Tgd Td
Dikes
Tk, keranite
Tgd, granit porphyry
Td, diabase

Tg
Gabbro
Dark-gray to black coarse-grained intrusive rock. Consists of plagioclase, hornblende, and augite

Lower or Middle(?) Cambrian

Csc
Scott Canyon Formation
Dark-gray to black chert, shale, and argillite with intercalated greenstone flows, pillow lavas, and pyroclastics

SEDIMENTARY ROCKS

UPPER PLATE GOLCONDA THRUST HAVALLAH SEQUENCE

Pmc
Pt
PPp
Havallah Formation
Interbedded sandstone, quartzite, shale, limestone, and chert
Pmc, Mill Canyon Member, interbedded quartzite, shale, chert, and limestone
Pt, Trenton Canyon Member, dark red and green chert and shale
PPp, Jory Member, coarse pebbly and limy sandstone

Middle Pennsylvanian and Lower Permian

DISCONFORMITY

DISCONFORMITY

DISCONFORMITY

OVERLAP ASSEMBLAGE ANTLER SEQUENCE

Pem
Edna Mountain Formation
Gray to buff calcareous sandstone with interbedded chert-pebble conglomerate and thin gray limestone beds

EROSIONAL UNCONFORMITY

PPap
Antler Peak Limestone
Medium- to dark-gray limestone and shaly limestone; lower beds shaly limestone; middle part medium- to thick-bedded cliff-forming cherty limestone; upper part thin- to medium-bedded shaly limestone

DISCONFORMITY

IPb
Battle Formation
Reddish-brown to dark-red conglomerate with interbedded sandstone, shale, and thin limestone beds. Lower unit (398 feet) coarse conglomerate with quartzite, chert, limestone, greenstone, and sandstone pebbles, cobbles, and boulders; sandy and shaly partings. Middle unit (71 feet) interbedded pebble conglomerate, sandstone, shale, limy shale, and limestone. Upper unit (258 feet) interbedded pebble conglomerate, sandstone, shale, and calcareous shale

PERMIAN

PENNSYLVANIAN

PENNSYLVANIAN(?)

CARBONIFEROUS

BASE CONCEALED

ANTLER OROGENY - MAJOR UNCONFORMITY

SILICEOUS AND VOLCANIC ASSEMBLAGE

Ov₃
Ov₂
Ov₁
Valmy Formation
Ov₃, member 3, mainly interbedded shale and chert with thin quartzite beds and minor greenstone. Shale is gray and black, weathers light gray; chert is green, gray, brown, and black
Ov₂, member 2, interbedded shale, quartzite, and chert with intercalated greenstone. Shale mostly dark gray to black; quartzite is gray to black, medium to thick bedded; chert is brown, gray, and black. Greenstones, mainly breccias, grade laterally into tufts
Ov₁, member 1, interbedded shale, quartzite, chert, and greenstone. Shale is gray to black; chert is mainly gray and black with some green and brown beds; quartzite is mainly gray weathers buff to reddish-brown. Greenstone includes pillow and massive lavas and pyroclastic rocks
Ov, Valmy Formation, undifferentiated, probably mostly Ov₁

TRANSITIONAL ASSEMBLAGE

Ch d
Harmony Formation
Interbedded greenish-brown micaceous sandstone, feldspathic sandstone, arkose, and green, red, or black shale; minor amounts of calcareous shale and limestone. Upper beds in Copper Basin contain higher proportion of limy beds
d, diabase dikes and sills cutting Harmony Formation

ORDOVICIAN

CAMBRIAN

Contact
Dashed where approximately located

Normal or steep reverse fault
Dashed where approximately located; dotted where concealed

Permian thrust fault

Mississippian thrust fault

Overturned thrust fault
Sawtooth on upper plates. Faults dashed where approximately located; dotted where concealed

Anticline
Showing trace of axial plane. Dashed where approximately located; short dashed where inferred or uncertain

Syncline
Showing trace of axial plane. Dashed where approximately located; short dashed where inferred or uncertain

Overturned syncline
Showing trace of axial plane, plunge of axis, and direction of dip limbs. Dashed where approximately located; short dashed where inferred or uncertain

Plunge of minor anticline

Plunge of minor syncline

Plunge of minor overturned fold

Strike and dip of beds

Strike and dip of overturned beds

Strike of vertical beds

Horizontal beds

Base map by Topographic Division
U.S. Geological Survey, 1943

Geology by R. J. Roberts, H. G. Ferguson, A. E. Granger,
M. W. Cox, D. C. Arnold, J. F. Maier, E. A. Scholz,
J. F. Robertson, and C. C. Albritton, 1941-42, 1946-49,
and 1951-53; additions by Southern Pacific Land Dept.
geologists, 1957-60

GEOLOGIC MAP OF THE ANTLER PEAK QUADRANGLE, HUMBOLDT AND LANDER COUNTIES, NEVADA

