NEVADA BUREAU OF MINES AND GEOLOGY

PREPARED IN COOPERATION WITH THE U.S. GEOLOGICAL SURVEY

MAP 50 GEOLOGIC MAP OF NORTH-CENTRAL NEVADA



GEOLOGIC MAP OF NORTH-CENTRAL NEVADA

Compiled by

John H. Stewart and John E. Carlson

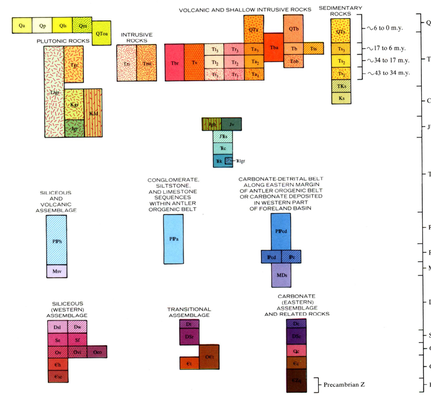
1976

Base from U. S. Geological Survey 1:250,000
Millet, 1955; Wells, 1955; Ely, 1956; Elko, 1953; McDermitt, 1955; Winnemucca, 1955.

5 0 5 10 15 20 25 30 KILOMETERS

5 0 5 10 MILES

SCALE 1:250,000
CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS
DATUM IS MEAN SEA LEVEL



DESCRIPTION OF MAP UNITS

Qa ALLUVIAL DEPOSITS

Qp PLAYA, MARSH, AND LOW ALLUVIAL-FLAT DEPOSITS – Locally eroded

Qls LANDSLIDE DEPOSITS

Qm MORAINAL DEPOSITS

QTos OLDER ALLUVIAL DEPOSITS

VOLCANIC AND SHALLOW INTRUSIVE ROCKS

QTa ANDESITE FLOWS AND BRECCIAS

QTb BASALT FLOWS

Tv VOLCANIC VENT BRECCIA

Tv UNDIVIDED VOLCANIC ROCKS

T_r WELDED AND NONWELDED SILICIC ASH-FLOW TUFFS – Locally includes thin units of air-fall tuff and sedimentary rock

T_{r_3} RHYOLITIC FLOWS AND SHALLOW INTRUSIVE ROCKS

Tma ANDESITE FLOWS AND BRECCIAS, AND FLOWS OF INTERMEDIATE COMPOSITION

Tma ANDESITE AND BASALT FLOWS – Mostly in ~4.7 to ~7.6 m.y. age range. May include rocks younger than 6 m.y. in places

T_b BASALT FLOWS

T_{a_2} ASH-FLOW TUFFS AND TUFFACEOUS SEDIMENTARY ROCKS

T_r WELDED AND NONWELDED SILICIC ASH-FLOW TUFFS – Locally includes thin units of air-fall tuff and sedimentary rock

T_{r_3} RHYOLITIC FLOWS AND SHALLOW INTRUSIVE ROCKS

T_{ma} ANDESITE FLOWS AND BRECCIAS, AND FLOWS OF INTERMEDIATE COMPOSITION

T_{ob} OLDER BASALT FLOWS

T_r WELDED AND NONWELDED SILICIC ASH-FLOW TUFFS – Locally includes thin units of air-fall tuff and sedimentary rock

T_{r_3} RHYOLITIC FLOWS AND SHALLOW INTRUSIVE ROCKS

T_{ma} ANDESITE FLOWS AND BRECCIAS, AND FLOWS OF INTERMEDIATE COMPOSITION

SEDIMENTARY ROCKS

QTs SEDIMENTARY ROCKS – Mostly lake deposits

T_{s_2} TUFFACEOUS SEDIMENTARY ROCKS – Locally includes minor amounts of tuff

T_{s_2} TUFFACEOUS SEDIMENTARY ROCKS – Locally includes minor amounts of tuff

T_s SEDIMENTARY ROCKS – Tuffaceous in part

T_{s_1} CONTINENTAL SEDIMENTARY ROCKS

Ks CONTINENTAL DEPOSITS OF SILTSTONE, SHALE, CONGLOMERATE, AND LIMESTONE – Includes Newark Canyon Formation

PLUTONIC ROCKS

TKgr GRANITIC ROCKS – Mostly quartz monzonite and granodiorite. Inconclusively dated or not dated radiometrically

Jgr GRANITIC ROCKS – Mostly quartz monzonite and granodiorite

Jgr GRANITIC ROCKS – Mostly quartz monzonite and granodiorite. Includes some undated plutons that could be Jurassic in age

Kdi DIORITE

Kgr GRANITIC ROCKS – Mostly quartz monzonite and granodiorite

INTRUSIVE ROCKS

Tri RHYOLITIC INTRUSIVE ROCKS

Tmi INTRUSIVE ROCKS OF MAFIC AND INTERMEDIATE COMPOSITION

JURASSIC AND TRIASSIC ROCKS

JTRg GABBROIC COMPLEX – Includes gabbro, basalt, and synorogenic quartz sandstone (Boyer Ranch Formation). Churchill and Pershing Counties (Lower and Middle Jurassic)

Jv VOLCANIC SANDSTONE, FELSIC ASH-FLOW TUFFS, RHYOLITE, AND RHYODACITE FLOWS – Pony Trail Group of Cortez Mountains. Eureka County (Upper? Jurassic)

JTr SHALE, MUDSTONE, SILTSTONE, SANDSTONE, AND CARBONATE ROCK; SPARSE VOLCANIC ROCKS – Includes Auld Lang Syne Group

Trc LIMESTONE; MINOR AMOUNTS OF DOLOMITE, SHALE, AND SANDSTONE; LOCALLY THICK CONGLOMERATE UNITS (LOWER, MIDDLE, AND UPPER TRIASSIC) – Includes Tobin, Dixie Valley, Favret, Augusta Mountain, and Cane Spring Formations, the Star Peak Group, and related rocks.

Rs KOIPATO GROUP AND RELATED ROCKS (LOWER TRIASSIC) – Altered andesitic flows, rhyolitic tuffs and flows, and clastic rocks. Includes Tallman Conglomerate (Permian?) in Humboldt County

TRgr LEUCOGRANITE AND RHYOLITE PORPHYRY

SILICEOUS AND VOLCANIC ASSEMBLAGE (UPPER PALEOZOIC)

Eugeosynclinal rocks originally deposited west of Antler orogenic belt. In most places, allochthonous and thrust eastward as upper plate of Golconda thrust

PPs HAVALLAH SEQUENCE OF SILBERLING AND ROBERTS (1962) – Chert, argillite, shale, greenstone, and minor amounts of siltstone, sandstone, conglomerate, and limestone. Includes Havallah, Pumpernickel, and Farrel Canyon Formations

Mse SILICEOUS AND VOLCANIC ROCKS (MISSISSIPPIAN?) – In Humboldt County, consists of altered pillow lavas, coarse volcanic breccias, clastic limestone, and minor sandstone, shale, siliceous shale, and chert of Goughs Canyon Formation. In the East Range, Pershing County, consists of quartzite, conglomerate, slate, limestone, chert, and greenstone of Inskip Formation

CONGLOMERATE, SILTSTONE, AND LIMESTONE SEQUENCES WITHIN ANTLER OROGENIC BELT

Rest unconformably on folded Paleozoic rocks

PPs ANTLER SEQUENCE OF SILBERLING AND ROBERTS (1962) – Conglomerate, sandy to conglomeratic limestone, sandstone, and calcareous shale. Thin detrital and carbonate sequence within main part of Antler orogenic belt. Includes such units as Battle Formation, Antler Peak Limestone, and Edna Mountain Formation

CARBONATE-DETRITAL BELT ALONG EASTERN MARGIN OF ANTLER OROGENIC BELT OR CARBONATE DEPOSITED IN WESTERN PART OF FORELAND BASIN

PPsd SANDY AND SILTY LIMESTONE, CONGLOMERATE, AND SILTSTONE (UPPER PENNSYLVANIAN TO UPPER PERMIAN) – Includes units such as Strathearn Formation of Dott (1955) and Buckskin Mountain, Beacon Flat, and Catlin Canyon Formations of Falls (1960) in Elko County and Carbon Ridge and Garden Valley Formations in Eureka County

IPPsd LIMESTONE, CHERTY LIMESTONE, SANDY LIMESTONE, AND CHERT-PEBBLE CONGLOMERATE (LOWER AND MIDDLE PENNSYLVANIAN) – Includes units such as Moleen and Ely Limestone

Ps LIMESTONE (PENNSYLVANIAN, LOCALLY INCLUDES SOME UPPER MISSISSIPPIAN OR LOWER PERMIAN ROCKS) – Includes Ely Limestone

MDs SHALE, SILTSTONE, SANDSTONE, CHERT-PEBBLE CONGLOMERATE, AND LIMESTONE – Includes units such as Pilot Shale, Joana Limestone, Chainman Shale, and Diamond Peak Formation

SILICEOUS (WESTERN) ASSEMBLAGE (LOWER PALEOZOIC)

Eugeosynclinal rocks. Mainly allochthonous rocks in upper plate of Roberts Mountains thrust. Includes Comus Formation that probably is para-autochthonous and in lower plate of Roberts Mountains thrust

Dsl SLAVEN CHERT – Chert and sparse limy sandstone, siltstone, and limestone. Lander County

Dw WOODRUFF FORMATION AND RELATED ROCKS – Shale, siliceous siltstone, chert, and minor amounts of limestone

Se ELDER SANDSTONE – Feldspathic sandstone, siltstone, shale, and chert. Lander County

Sf FOURMILE CANYON FORMATION AND RELATED ROCKS – Shale and chert

Ov VALMY FORMATION – Chert, shale, quartzite, greenstone, and minor amounts of limestone

Ovi VININI FORMATION – Shale, chert, and minor amounts of quartzite, greenstone, and limestone

Ocs COMUS FORMATION – Shale, siltstone, dolomite, limestone, and chert

Ch HARMONY FORMATION (UPPER CAMBRIAN) – Feldspathic and arkosic sandstone and minor amounts of shale, limestone, and chert

Ecp SCOTT CANYON FORMATION (LOWER OR MIDDLE CAMBRIAN) – Chert, shale, greenstone, and sparse limestone and quartzite

TRANSITIONAL ASSEMBLAGE

Para-autochthonous or autochthonous with respect to Roberts Mountains thrust. Marine. In places, interstratified with carbonate assemblage

Dv ARGILLACEOUS LIMESTONE, CHERT, AND SHALE – Elko and Eureka Counties

DSr ROBERTS MOUNTAINS FORMATION AND RELATED ROCKS – Platy limestone and limy siltstone. Chert at base in most areas

OSv PHYLLITE AND LIMESTONE – Includes Broad Canyon sequence of Means (1962)

Sl SHALE AND THIN-BEDDED OR LAMINATED LIMESTONE – Includes such units as Preble Formation

CARBONATE (EASTERN) ASSEMBLAGE AND RELATED ROCKS

Para-autochthonous or autochthonous with respect to Roberts Mountains thrust. Shallow-marine, intertidal, and supratidal deposits

Dc DOLOMITE, LIMESTONE, AND MINOR AMOUNTS OF SANDSTONE AND QUARTZITE – Includes such units as Nevada Formation and Devils Gate and Wenban Limestones

Dd DOLOMITE – Includes such units as Lone Mountain Dolomite

SDe LIMESTONE, DOLOMITE, SHALE, AND QUARTZITE – Includes units such as Poponip Group, Eureka Quartzite, and Ely Springs Dolomite

SDc LIMESTONE AND DOLOMITE, LOCALLY THICK SEQUENCES OF SHALE AND SILTSTONE – Includes units such as Roche Shale, Eldorado Dolomite, Geddes Limestone, Secret Canyon Shale, Hamburg Dolomite, Dunderberg Shale, and Windfall Formation

Cq QUARTZITE AND MINOR AMOUNTS OF CONGLOMERATE, PHYLLITIC SILTSTONE, LIMESTONE, AND DOLOMITE – Includes such units as Prospect Mountain and Osgood Mountain Quartzites

Precambrian Z

Contact

High-angle fault – Bar and ball on downthrown side. Dashed where approximately located or uncertain; dotted where concealed

Low-angle fault – Sawteeth on upper plate

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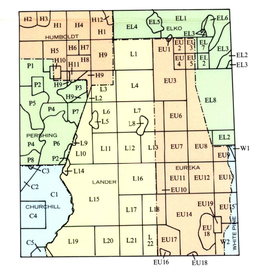
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SOURCES OF DATA

Data shown on this map are largely from county compilations by various authors. The compilation for each county is cited at the beginning of the list for each county. The list includes, where applicable, the original data used in compilation of county maps, as well as new data (indicated by an asterisk) that supersede the information on the county map. Numbers correspond to those found on index map.

Prefix indicates county within which referenced area lies.

C – Churchill EU – Eureka
EL – Elko H – Humboldt
L – Lander W – White Pine
P – Pershing



Churchill County

County map – Willden, Ronald, and Speed, R. C. (1974) Geology and mineral deposits of Churchill County, Nevada: Nevada Bureau of Mines and Geology Bull. 83, pt. 1.

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Elko County

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*EL2. Hope, R. A., reconnaissance mapping, 1971–1972.

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Eureka County

County map – Roberts, R. J., Montgomery, K. M., and Lehner, R. E. (1967) Geology and mineral resources of Eureka County, Nevada: Nevada Bur. Mines Bull. 64, pl. 3.

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Pershing County

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