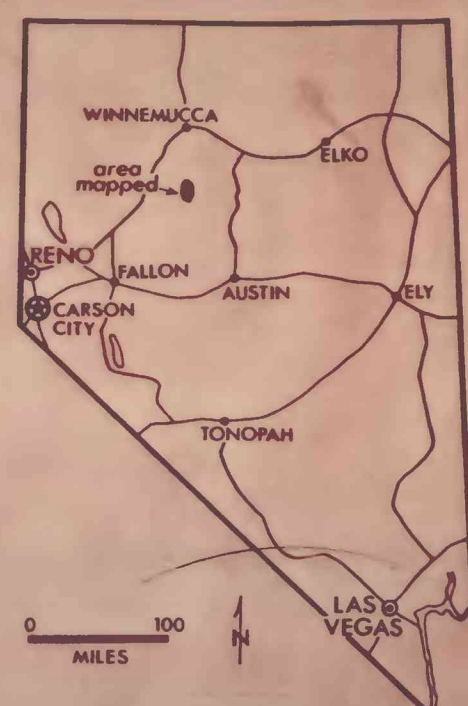


EXPLANATION

- Quaternary**
 - Qyo younger alluvium
 - Qol older alluvium
 - Qog older gravel
 - Qtb basalt
 - Ts lacustrine sediments
 - Tbn BATES MOUNTAIN TUFF
 - Tfc FISH CREEK MOUNTAINS TUFF
 - Tpu pumice tuff
 - To andesite
 - Tct CAETANO TUFF
 - Tb basalt
 - Ton O'NEILL FORMATION
 - Tmi MINNEBUCCA FORMATION
 - Tdg DUN GLEN FORMATION
 - Tos OSOBB FORMATION
 - Tnc NATCHEZ PASS FORMATION
 - Tpc PANTHER CANYON FORMATION
 - Tmfa FAVRET AND PRIMA FORMATIONS undifferentiated
 - Tmfv DIXIE VALLEY FORMATION
 - Tmf TOBIN FORMATION
 - Tmg greenstone
 - Tmch CHINA MOUNTAIN FORMATION
 - Tmro ROCHESTER RHYOLITE
 - Tml LIMERICK GREENSTONE
 - Tmfv BAVALLAH FORMATION
- Tertiary**
 - Qol landslide deposits
 - Qog masses of coarse unsorted blocks of subject units
 - Qtb vesicular sphenitic basalt; texturally associated dikes and sills
 - Ts pale colored siltstone, sandstone, claystone, and volcanic ash; grades laterally to friable sandstone and pebbly conglomerate near contact with andesite rocks
 - Tbn vesicular crystal-poor pink to reddish-brown double-welded tuff; locally vitrophyre at base
 - Tfc crystal-rich pink to red sphenitic welded tuff
 - Tpu pumice tuff
 - To varying proportions of dark andesite flow, flow breccia, agglomerate tuff, and andesite-derived sedimentary rocks; contains subordinate amounts of chlorite tuff; stippled pattern indicates equivalent dikes rock and zones of altered country rock
 - Tct crystal- and pumice-rich pink to pale reddish-brown sphenitic tuff; locally welded in upper part; stippled pattern shows basal white non-welded tuff with abundant lithic fragments
 - Tb dark vesicular basalt containing abundant secondary chlorophyll as well as fillings and nodules
 - Ton cross-stratified pale colored sandstone and siltstone with lenses of feldspathic quartz sandstone containing thin layers of dark and gray shale; top not exposed but thickness at least 1,000 feet
 - Tmi variably pale colored siltstone and sandstone containing lenses of feldspathic quartz sandstone, limestone, and dolomite; thickness about 1,400 feet
 - Tdg thick to very thick-bedded brownish-gray to dark gray limestone; contains pale brown dolomite and pale colored feldspathic quartz sandstone in lower part; thickness about 600 feet
 - Tos siltstone to calcareous cross-stratified pale colored feldspathic quartz sandstone containing lenses of olive sandstone about 300 feet of medium to thick-bedded pale brown dolomite, gray limestone, and siltstone sandstone near middle of unit (stippled pattern); total thickness about 1,800 feet
 - Tnc lower part massive medium to poorly bedded dark gray limestone; locally with abundant small fragments of base and top; about 1,100 feet thick; middle part dark gray limestone; upper part stratified; about 150 feet thick; upper part medium to thin bedded medium to dark gray limestone; base and top basaltic gray with abundant silt and small fragments; about 1,300 feet thick
 - Tpc lithology variable in mapped area. In southern and southeastern exposures, as much as 1,000 feet of massive cherty sandy and poorly spheroidal gray dolomite with interbedded gray-green siltstone and sandstone, fine-grained light gray to grayish-brown dolomite, and gray limestone. In lower part is overlain by as much as 300 feet of very-laminated fine-grained dolomite. Lower part thin-bedded to north and upper part is reduced in thickness. In northern exposures, as much as 100 feet of very-laminated fine-grained dolomite and subordinate limestone at base, with 20 to 30 feet of massive siltstone dark sandstone and conglomerate above
 - Tmfa lithology variable in mapped area. In southern and southeastern exposures, about 75 feet of very thick-bedded dark-gray limestone at base, commonly overlain by a zone of limestone nodules to a completely laminated siltstone matrix that may locally be replaced by coarse volcanoclastic rocks; upper part contains calcareous dark sandstone, siltstone, fine-grained limestone, and gray limestone; total thickness as much as 400 feet. In northern exposures, as much as 400 feet of massive medium to poorly bedded gray limestone with reduced thickness, overlain a few feet of calcareous or dolomitic sandstone and pebbly conglomerate, locally absent in northern outcrops of area. Partially or entirely altered to massive cherty spheroidal gray dolomite in northern two-thirds of area
 - Tmfv lithology variable in mapped area. In southeastern exposures, lower part siltstone or dolomitic thin to very thick-bedded moderately sorted and rounded conglomerate derived from underlying units; upper part thin to very thick-bedded limestone siltstone, red shale and laminated silty yellow dolomite with lenses of sandstone and conglomerate; total thickness about 300 feet. In northern, lower conglomerate better sorted and rounded, with laminated sandstone and siltstone; upper siltstone and dolomite interbedded with medium to thick-bedded limestone; total thickness perhaps 800 feet. Absent to north
 - Tmf lithology variable in mapped area. In southern exposures, calcareous sandstone, siltstone, and conglomerate at base, grading upward to laminated calcareous dark medium to fine-grained limestone with thick-bedded lenses of coarse-grained bioclastic limestone; about 400 feet. Overlain by silty medium to medium-bedded gray and brown siltstone and limestone with abundant small fragments; about 75 feet. Grades laterally northward to siltstone and dolomitic moderately sorted and rounded medium to very thick-bedded conglomerate and sandstone derived from underlying units; about 400 feet. Absent to north
 - Tmg grayish-green andesite(?) flow, thickness 0 to about 400 feet
 - Tmch siltstone and dolomite flow to very coarse-grained calcareous silty rocks derived from underlying units. Color, bedding thickness, sorting, rounding, and degree of cementation extremely variable. Contains spherulitic tholeiitic dikes (?) related to Esquimaux Group volcanics. Thickness 0 to over 1,000 feet
 - Tmro pale colored sphenitic welded tuff with subordinate calcareous clastic rocks. Includes hypabyssal(?) sphenitic tholeiite in part. Thickness 0 to over 1,000 feet
 - Tml dark altered andesite flow and flow breccia with silty tuff and andesite-derived secondary rocks. Thickness 0 to over 800 feet
 - Tmfv thin-bedded chert with agillite partings, massive chert, and thin to thick-bedded agillite, sandstone, and siltstone or sandy crystalline limestone; intensely altered. Base not exposed but thickness greater than several thousand feet
- Triassic**
 - Tmfa FAVRET AND PRIMA FORMATIONS undifferentiated
 - Tmfv DIXIE VALLEY FORMATION
 - Tmf TOBIN FORMATION
 - Tmg greenstone
 - Tmch CHINA MOUNTAIN FORMATION
 - Tmro ROCHESTER RHYOLITE
 - Tml LIMERICK GREENSTONE
 - Tmfv BAVALLAH FORMATION
- Upper Triassic**
 - Tdg DUN GLEN FORMATION
 - Tos OSOBB FORMATION
- Middle Triassic**
 - Tnc NATCHEZ PASS FORMATION
 - Tpc PANTHER CANYON FORMATION
 - Tmfa FAVRET AND PRIMA FORMATIONS undifferentiated
 - Tmfv DIXIE VALLEY FORMATION
 - Tmf TOBIN FORMATION
- Lower Triassic**
 - Tmg greenstone
 - Tmch CHINA MOUNTAIN FORMATION
 - Tmro ROCHESTER RHYOLITE
 - Tml LIMERICK GREENSTONE
 - Tmfv BAVALLAH FORMATION
- Intrusive Rocks**
 - Tv vitrophyre intrusive
 - Tm mafic hypabyssal rocks

GEOLOGIC MAP
OF THE
SOUTHERN TOBIN RANGE
PERSHING COUNTY, NEVADA

INDEX MAP OF NEVADA



CONJECT: Dashed where approximately located

DISCONTINUITIES

NORMAL OR STEEP REVERSE FAULT: Half on side of low downthrow; dashed where approximately located; queried where evidence uncertain or combination unknown; tapered where break does not break close out

LOW ANGLE FAULT: Same as normal, but lighter black; dashed where approximately located

FAULTS FORMED OR REACTIVATED DURING THIS TERTIARY: Section on side of relative downthrow; dashed where trace obscure, tapered where break does not break close out

FAULT SCARP ALREADY UNDER WOODS: BOUNDARY HAS BEEN DELETED

OMITS: ALL STRIPES AND DIPS REFERRED TO NEAREST 5°

Strike and dip of beds. Overlain where uncertain

Strike and dip of overthrust beds. Marked where uncertain

Strike of vertical beds. Half on side of stratigraphic top

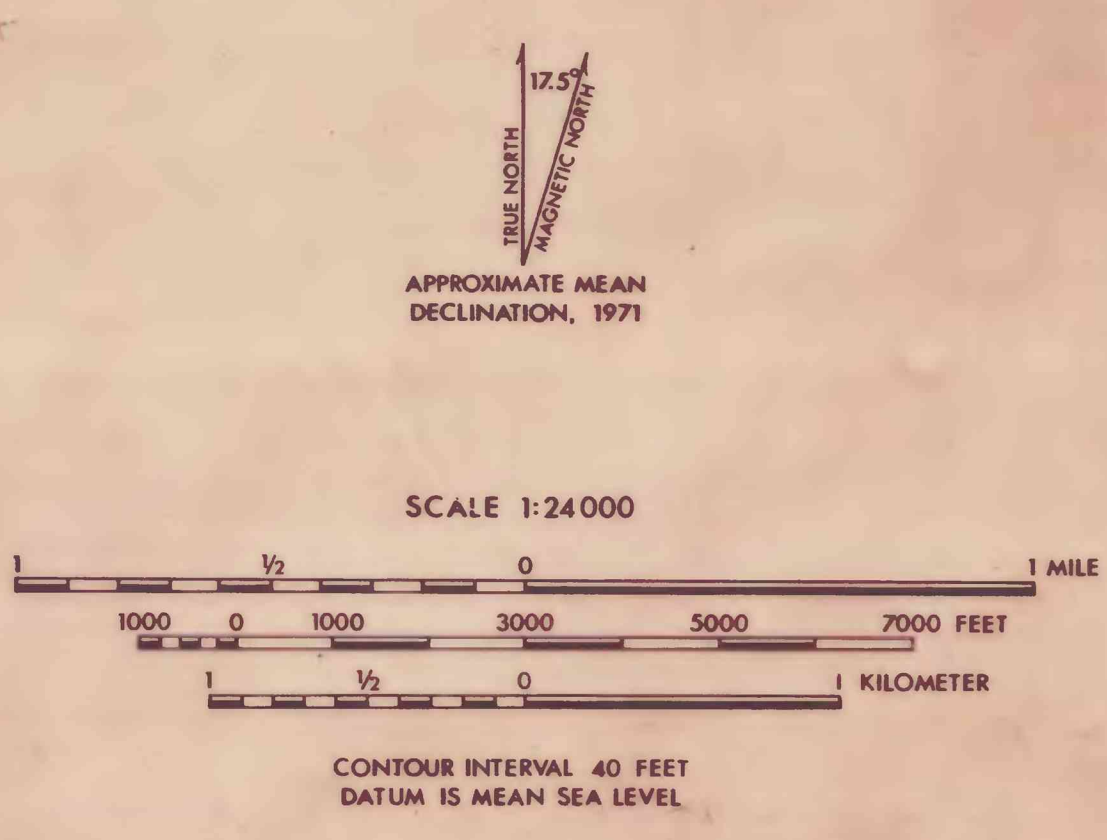
Horizontal beds

Approximate strike and dip of gently inclined (30-40°) beds. May be overthrown

Approximate strike and dip of steeply inclined (60-90°) beds. May be overthrown

Approximate strike of vertical beds. Refer to table on top

Strike and dip of plane features in natural rocks, probably or questionably related to stratification



Geology mapped in 1968-72 by Dennis B. Burke

Base map compiled and slightly modified from U.S. Geological Survey 775 preliminary topographic maps: Home Station Ranch, Kennedy Canyon, McCoy Ranch, Needle Peak and Saw Hills, Nevada