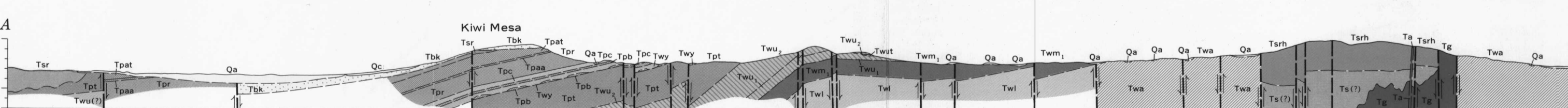
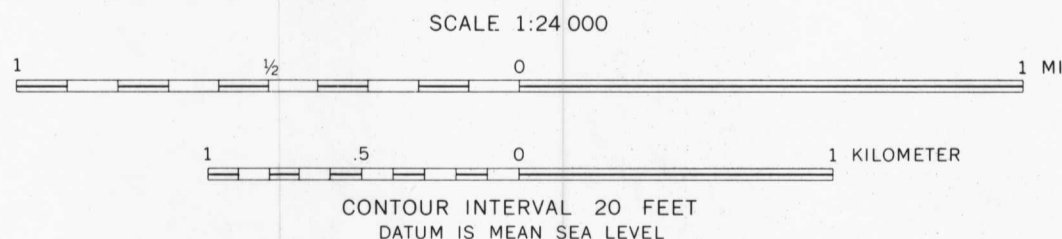


DESCRIPTION OF MAP UNITS

- Qa** ALLUVIUM (0-500 ft)—stream sand and gravel; includes windblown silt and caliche-cemented partly dissected fan gravels. Gravels are unsorted, angular-to-rounded material made of rock fragments from adjacent mountains. Gravel on dissected fans is commonly covered with desert varnish.
- Qc** COLLUVIUM—poorly indurated and poorly sorted bouldery gravel with sandy matrix, composed principally of volcanic rocks.
- Tbk** BASALT OF KIVI MESA (0-250 ft)—black to greenish-black olivine basalt; locally crumbly weathering because of deuteric alteration.
- Tsr** RHYOLITE OF SHOSHONE MOUNTAIN (0-700 ft)—gray and tan flow-banded rhyolite with basal vesicular black vitrophyre and local vesicular flow breccia; on Kiwi Mesa and northwest corner of quadrangle.
- Tao** OLDER ALLUVIUM—partly consolidated crossbedded conglomeratic sandstone and conglomerate; composed chiefly of dacite and andesite of Wahmonie Flat and material from the Rainier Mesa Member of the Piapi Canyon Formation; contains minor amounts of basalt; in southeastern part of quadrangle only.
- Tbs** BASALT OF SKULL MOUNTAIN (0-250 ft)—bluish- and greenish-black olivine basalt; contains medium-grained rounded and embayed quartz grains.
- Tac** ALLUVIUM AND COLLUVIUM—well-consolidated; coarser components are dacitic and andesitic pebbles and boulders; matrix is sandy, derived from Rainier Mesa Member of Piapi Canyon Formation.
- PIAPI CANYON FORMATION:**
- Tpat** TUFFS OF AMMONIA TANKS (0-250 ft)—multiple-flow simple cooling unit; red and pink, densely to partly welded, tuff rich in pyramidal quartz and sandine; weathers to large rounded boulders.
- Tpaa** Ash-fall and ash-flow tuff (0-70 ft)—nonwelded and slightly welded; distinctive brown and orange shad bed at top; white stratified bed at base that weathers to hoodoos and small caves; mapped separately in northern part of quadrangle only.
- Tpr** RAINIER MESA MEMBER (0-150 ft)—compound cooling unit of grayish-purple ash-flow tuff. In northern part unit has vapor-phase zone well developed at top, underlain by densely and partly welded tuff, and vitric non-welded tuff at base; rich in quartz and sandine. On Skull Mountain unit is weakly welded and locally intensely zeolitized; basal part includes thin zone of bedded ash-fall and reworked tuff containing pebbles and cobbles of Tiva Canyon Member.
- Tpc** TIVA CANYON MEMBER (0-150 ft)—multiple-flow simple cooling unit; pink and purple, densely welded, crystal-poor, nonquartzose tuff; unit weathers to "clinkstones"; locally has a black vitrophyre at top and base; forms steep rounded slope.
- Tpb** BEDDED TUFF (0-60 ft)—weakly stratified; tan, brown, and light-gray vitric shad bed at top; white to gray ash-fall and reworked tuff below.
- Tpt** TOPOPAH SPRING MEMBER (0-700 ft)—multiple-flow simple cooling unit; pink, purple, and brownish-orange, densely welded, crystal-poor tuff; characterized by lack of quartz, well-defined eutaxitic structure, and a black vitrophyre at base.
- Tpta** Ash-fall tuff (0-70 ft)—white, tan, and brown, thin, non-welded; characterized by abundant angular granules of variegated chert, quartz, and feldspar.
- ANDESITES, DACITES, LATTICES, AND TUFFS OF WAHMONIE FLAT:**
- Twy** YOUNG ANDESITE—red flow, conspicuous plagioclase and pyroboles; east of Kiwi Mesa only.
- Twu** UPPER PART (0-600 ft)—dominantly andesitic flows and flow breccias, gray to purple-gray, pink, and red; porphyritic; characterized by conspicuous light-gray phenocrysts of plagioclase as much as 6 mm in length; principal mafic minerals are hypersthene and diopsidic augite, minor hornblende and biotite; basal parts are commonly black glass. In northern area of quadrangle unit comprises the cap rock of Lookout Peak; locally subdivided:
- Twut** Ash-fall and reworked tuff—white to gray, occurs locally throughout upper part (twu); lenticular, typically well stratified.
- Twuf** Units in northeastern quarter of quadrangle:
Layered flow—andesitic.
- Twub** Flow breccia—andesitic.
- Twu₁** Units east of Kiwi Mesa:
Layered flows and flow breccias—andesitic, lithologically similar; mapped units separated at base of black vitrophyres.
- Twm** MIDDLE PART (0-650 ft)—dominantly dacitic flows and flow breccias, very similar to upper part (twu), except dominantly red and reddish brown and richer in hornblende. Locally divided on eastern part of Skull Mountain and in northern and eastern areas of quadrangle.
- Twml** Lithic tuff—gray and tan, nonwelded, subangular fragments of latic flow and flow breccia as large as 6 inches; pumice fragments as large as one inch; quartz, feldspar, hornblende, biotite, and magnetite phenocrysts.
- Twmt** Ash-fall and reworked tuff—white to gray, occurs locally throughout middle part (twm).
- Twm₁** Units in northern area:
Upper flows—dacitic; basal black glass.
- Twm₂** Lower flows—dacitic.
- Twm₃** Units in eastern area (including eastern part of Skull Mountain):
Flows—dacitic; typically show layering.
- Twmf** Flows—dacitic.
- Twmb** Flow breccia—dacitic.
- Twl** LOWER PART (0-1,350 ft)—dominantly latic flows and flow breccias, light-gray, greenish-gray, yellowish-gray, and red; abundant fresh biotite and hornblende phenocrysts in a stony but locally glassy matrix. Differentiated in part on north face of Skull Mountain:
- Twl₆** Latic flow breccia (0-150 ft)—grayish-pink to brown and red; matrix is highly comminuted; both matrix and fragments are rich in biotite and hornblende. Displays crude bedding; forms steep slope.
- Twl₅** Latic layered flow (0-300+ ft)—medium- to dark-gray, grading to red; some layers stony, others glassy; phenocrysts of hornblende common; forms steep cliff.
- Twl₄** Latic layered flow (0-140 ft)—similar to flow above (twl₅), except more hornblende that locally shows primary flow lineation; locally flow folded; forms stepped cliff.
- Twl₃** Latic glassy flow breccia (0-250 ft)—dominantly gray; fragments are fresh and vitreous, matrix is duller, plagioclase phenocrysts; fragments (50 percent of rock) range in size from one inch to 3 feet; unit forms most prominent cliff on Skull Mountain.
- Twl₂** Latic glassy flow breccia (0-50 ft)—dark-gray, lithologically similar to flow breccia above (twl₃); unit forms steep cliff.
- Twl₁** Tuffaceous sandstone and conglomerate—dominantly red and pink, cross-stratified.
- Twl₀** Latic layered flow (0-150 ft)—red and pink; forms lowest cliff on Skull Mountain.
- Twa** HYDROTHERMALLY ALTERED ANDESITE, DACITE, LATITE, AND TUFF—brown, red, and yellow. Silicic, argillic, and alunitic alteration affected porous flow-breccia and tuff more than flow-layered rock; in places alteration has destroyed original texture.
- BRECCIA FLOWS, RHYODACITE, AND TUFFACEOUS ROCKS OF MOUNT SALYER AREA (120-1,500+ ft):**
- Tsrh** RHYODACITE—lavender, purple, and gray; porphyritic, rich in hornblende and biotite; flow layered.
- Ts** BRECCIA FLOWS, TUFFACEOUS ROCKS, AND SANDSTONE—breccia flows of rhyodacitic composition; other subordinate flows; red ferruginous crossbedded sandstone. Recognized only on north slope of Skull Mountain and Horn Silver area.
- Tpa** TUFF OF PAVITS SPRING AREA—light- to yellow-gray, highly altered and brecciated quartz-bearing tuff.
- PMe** ELEANA(?) FORMATION—light-green to tan quartzite, calcareous sandstone and conglomerate.
- INTRUSIVE ROCKS:**
- Tg** GRANODIORITE—light-gray, porphyritic; phenocrysts of labradorite, diopsidic-augite and biotite; groundmass mainly quartz and alkali feldspar.
- Ta** ANDESITE—dark blue-gray to black. Occurs as thin dikes and small apophyses north of Horn Silver area.
- Tr** RHYOLITE—tan, white, and yellow-brown, flow laminated, intensely altered.
- Tib** INTRUSIVE BRECCIA—rhyodacitic composition; dark reddish-brown; mostly altered, lithologically similar to breccia flows of Mount Salyer area.



Base by U.S. Geological Survey, 1961
10,000-foot grid based on Nevada
coordinate system, central zone



GEOLOGIC MAP OF THE SKULL MOUNTAIN QUADRANGLE, NYE COUNTY, NEVADA
By
E. B. Ekren and K. A. Sargent
1965

D-01B