

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.
- Tsk** BASALT OF KIVI MESA (0-250 ft.)—black to greenish-black olivine basalt; locally crumbly weathering because of dolomitic alteration.
- Tr** RHYOLITE OF SHOSHONE MOUNTAIN (0-700 ft.)—gray and tan flow-banded rhyolite with basal vesicular black vitrophyre and local vesicular flow breccia; on Kivi Mesa and northeast corner of quadrangle.
- Ta** 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, coarse components are dacitic and andesitic pebbles and boulders; matrix is sandy, derived from Rainier Mesa Member of Piapi Canyon Formation.
- PIAPI CANYON FORMATION**
- Tpad** Tuffs of Ammonia Tanks (0-250 ft.)—multiple-flow simple cooling unit; red and pink, densely to partly welded, tuff rich in bi-pyramidal quartz and sandstone; weathers to large rounded boulders.
- Tpas** Ash-fall and ash-flow tuff (0-70 ft.)—nonwelded and slightly welded; distinctive brown and orange sherd bed at top; white caves, mapped separately in northern part of quadrangle only.
- Tpr** Rainier Mesa Member (0-450 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 nonwelded tuff at base; rich in quartz and sandstone. 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 vitrophyre at top and base; forms steep rounded slope.
- Tpb** Bedded tuff (0-60 ft.)—weakly stratified; tan, brown, and light-gray vitric sherd 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 outcavitic structure, and a black vitrophyre at base.
- Tpsa** Ash-fall tuff (0-70 ft.)—white, tan, and brown, thin, nonwelded; characterized by abundant angular granules of variegated chert, quartz, and feldspar.
- ANDESITES, DACITES, LATITES, AND TUFFS OF WAHMONIE FLAT:**
- Twy** Young andesite—red flow, conspicuous plagioclase and pyroxenes; east of Kivi 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 and diopside augite; minor hornblende and biotite; basal parts are commonly black glass. In northern area of quadrangle unit comprises the top rock of Lookout Peak; locally subdivided: out upper part (Twu) lithologic, typically well stratified; units in northeastern quarter of quadrangle.
- Twuf** Layered flow—andesitic.
- Twub** Flow breccia—andesitic.
- Twu** Flow breccia—andesitic.
- Twu** Units east of Kivi Mesa:
- Twu** Layered flows and flow breccias—andesitic, lithologically similar; mapped units separated at base of black vitrophyres.
- Twu** 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 and biotite. Locally divided on eastern part of Skull Mountain and in northern and eastern areas of quadrangle.
- Twu** Lithic tuff—gray and tan, nonwelded, subangular fragments of latitic flow and flow breccia as large as 6 inches; pumice fragments as large as one inch; quartz, feldspar, hornblende, biotite, and magnetite phenocrysts.
- Twu** Ash-fall and reworked tuff—white to gray, occurs locally throughout middle part (Twu).
- Twu** Units in northern area:
- Twu** Upper flows—dacitic; basal black glass.
- Twu** Lower flows—dacitic.
- Twuf** Units in eastern area (including eastern part of Skull Mountain):
- Twuf** Flow—dacitic, typically show layering.
- Twub** Flow breccia—dacitic.
- Twu** Lower part (0-1,350 ft.)—dominantly latitic 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:
- Twu** Latitic flow breccia (0-150 ft.)—grayish-pink to brown and red; matrix is highly commuted; both matrix and fragments are rich in biotite and hornblende. Displays crude bedding; forms steep slope.
- Twu** Latitic layered flow (0-300 ft.)—medium to dark gray, grading to red; some layers stony, others glassy; phenocrysts of hornblende common; forms steep cliff.
- Twu** Latitic layered flow (0-140 ft.)—similar to flow above (Twu) except more hornblende that locally shows primary flow lineation; locally flow folded; forms stepped cliff.
- Twu** Latitic 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.
- Twu** Latitic glassy flow breccia (0-50 ft.)—dark-gray, lithologically similar to flow breccia above (Twu); unit forms steep cliff.
- Twu** Tuffaceous sandstone and conglomerate—dominantly red and pink, cross-stratified.
- Twu** Latitic layered flow (0-150 ft.)—red and pink; forms lowest cliff on Skull Mountain.
- Twu** Hydrothermally altered andesite, dacite, latite, and tuff—brown, red, and yellow. Siliceous, argillaceous, and aluminous 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 SALVER AREA (120-1,500 ft.):**
- Trh** 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 PAUTE SPRING AREA—light to yellow-gray, highly altered and brecciated quartz-bearing tuff.
- PMa** ELENA(?) FORMATION—light-green to tan quartzite, calcareous sandstone and conglomerate.
- INTRUSIVE ROCKS:**
- Tg** Granodiorite—light-gray, porphyritic; phenocrysts of labradorite, diopside 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 Salver area.



GEOLOGIC MAP OF SKULL MOUNTAIN QUADRANGLE, NYE COUNTY, NEVADA  
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