

MAP SYMBOLS

- Contact — Dashed where gradational.
- High-angle normal fault — Dashed where approximately located; dotted where concealed. Bar and ball on downthrown side. Arrow shows dip.
- Fault scarp from 1954 earthquake — Hachures on downthrown side.
- Low-angle normal fault — Dotted where concealed. Loupice bars on upper plate.
- Strike and dip of inclined bedding — 61 — Inclined — 38 — Vertical
- Strike and dip of compaction foliation — 61 — Inclined — 38 — Vertical
- Strike and dip of inclined flow banding — 75 — 38
- Dikes — Part of silicic intrusive rocks (Ts) and dacite intrusions (Tdi) units. Arrow shows dip.
- K-Ar sample site
- br, h, m, a — Megabreccia and megabreccia blocks. Zones of megabreccia (br) and blocks of black hornfels (h), marble (m), and andesite (a) enclosed within tuff of Elevation Canyon.

SURFICIAL DEPOSITS

- Qbf Basin fill (Quaternary) Unconsolidated sand and silt filling Dixie Valley.
- Qya Younger alluvium (Quaternary) Unconsolidated alluvium, colluvium, talus, and other surficial deposits. Mostly alluvium in active drainages and along edge of Dixie Valley and colluvium along edge of Stillwater Range.
- Qs Sand (Quaternary) Large exposure of unconsolidated eolian sand and sand dunes on east side of Dixie Valley.
- Qyf Younger alluvial-fan deposits (Quaternary) Unconsolidated fluvial and debris-flow deposits consisting of poorly sorted, coarse-grained, sandy pebbles to boulder gravel and gravely sand locally containing angular blocks as much as 3 m across. Undissected to weakly dissected. Locally gradational with older alluvial-fan deposits (Qof).
- Qof Older alluvial-fan deposits (Quaternary) Unconsolidated fluvial and debris-flow deposits consisting of poorly sorted, coarse-grained, sandy pebbles to boulder gravel and gravely sand locally containing angular blocks as much as 3 m across. Deeply dissected to moderately dissected. Locally gradational with younger alluvial-fan deposits (Qyf) and older alluvium (QToa).
- QToa Older alluvium (Quaternary and/or Tertiary) Consolidated and unconsolidated alluvium. Includes terrace deposits as high as 15 m above the present stream level. Locally gradational with older alluvial-fan deposits (Qof). As mapped, locally includes deeply weathered Tertiary sedimentary rocks (Ts) near southwest corner of map area.

VOLCANIC, SEDIMENTARY, AND HYPABYSSAL INTRUSIVE ROCKS

- Tya Younger andesite (Miocene) Dark gray to light-greenish-gray, fine-grained, pilotaxitic to hypidiomorphic granular (hornblende)-pyroxene-plagioclase andesite. Includes lava flows unconformably overlying tuffs of Lee Canyon (Tc) and Elevation Canyon (Tec) and dacite intrusions (Tdi) and small bodies intrusive into the same units.
- Ts Sedimentary rocks (Miocene) Generally well-indurated, white, tan, and yellowish-brown, fine- to coarse-grained fluvial and lacustrine sedimentary rocks that unconformably overlie tuff of Elevation Canyon, older andesite, and Mesozoic rocks. Consists of siltstone, sandstone, cobble to boulder conglomerate, and minor freshwater limestone; cobbles commonly well rounded. Clasts are composed of Tertiary rocks, including tuff of Elevation Canyon, older andesite, and silicic intrusive rocks; sparse clasts of Mesozoic rocks.
- Ts1 Silicic intrusive rocks (Miocene and Oligocene?) Numerous texturally and compositionally distinct silicic dikes and domes and minor pyroclastic aprons and lava flows. Includes apyritic felsite, sparsely porphyritic biotite-plagioclase-K-feldspar rhyolite(?) porphyry, and coarsely porphyritic biotite-hornblende-plagioclase dacite porphyry. Most rocks are strongly argillized or pyrolytized, although glassy domes are locally present along west side of the Stillwater Range in Table Mountain and Cox Canyon Quadrangles and fresh biotite rhyolite porphyry dikes are present near Piroquette Mountain. In the Piroquette Mountain Quadrangle, unit consists mostly of west-northwest-trending rhyolite porphyry dikes present on both sides of Dixie Valley and an argillized felsite dome cropping out near the southeast corner of the quadrangle. Eight K-Ar ages range from about 25 to 18 Ma (John, 1992, 1993b; Stewart and others, 1994).

- Tdi Dacite intrusions (Miocene? and Oligocene) Two small plugs of dacite porphyry that intrude pyrolytized tuff of Elevation Canyon (Tec) in northwest corner of map area and dikes of pyrolytized dacite that intrude older rhyolite (Tor) and older tuff (Ttj) units near northeast corner of map area. Intrusion along south side of Slaughter Canyon near west edge of map is dark-reddish-brown, flow-banded dacite porphyry containing about 30% fine- to medium-grained plagioclase, hornblende, and less abundant biotite phenocrysts in a microfelsitic groundmass. Biotite K-Ar age of 24.3±0.6 Ma (E.H. McKee, written commun., 1988). Intrusions north of the mouth of Slaughter Canyon are pale reddish-brown where devitrified and black where vitrophyric, flow-banded dacite porphyry containing about 25% fine- to medium-grained phenocrysts composed of plagioclase, biotite, hornblende, and minor clinopyroxene. The intrusion is overlain by lava flows of younger andesite (Tya) unit. Dikes in northeast corner of map are strongly pyrolytized, dark-green dacite porphyry containing about 25% fine- to medium-grained phenocrysts consisting of plagioclase, hornblende, and biotite in a microfelsite groundmass.
- Tyr Younger rhyolite (Miocene or Oligocene) Red, light-purple, green, black, and gray, generally sparsely porphyritic rhyolite lava flows, flow breccia, and intrusive rocks and minor accretionary lapilli tuff and epiclastic sandstone. Generally contains 0 to 10% fine- to medium-grained phenocrysts of white K-feldspar and minor plagioclase and altered biotite(?) in a devitrified aphanitic groundmass. Locally strongly flow banded. Generally equivalent to the laticite flows, tuffs, and breccias unit of Page (1965, unit T-J).
- Tha Hornblende andesite (Miocene or Oligocene) Dikes and small plugs of pale-greenish-gray to light-brown, fine- to medium-grained, porphyritic hornblende andesite. Contains about 15 to 20% 0.25- to 2.0-mm-long hornblende and plagioclase phenocrysts in a pilotaxitic to trachytic groundmass. Intrudes sedimentary rocks and tuff (Ts) unit north of Elevation Canyon.
- Tlc Tuff of Lee Canyon (Oligocene) Reddish-brown, blue-gray, and lavender-gray, pumice- and biotite-rich high-silica dacite ash-flow tuff. Tuff is devitrified, moderately to densely welded, moderately crystalline, and generally lithic poor. Strongly flattened, biotite-rich pumice clasts are commonly as long as 10 cm. Generally contains 30 to 40% medium-grained phenocrysts consisting of plagioclase, quartz, and abundant quartz and sanidine, 2 to 3% biotite, and <1% hornblende. Lithologically resembles less altered parts of tuff of Elevation Canyon, but is more pumice rich and generally contains less abundant quartz phenocrysts. Biotite K-Ar age of 24.6±0.8 Ma determined from a sample collected in the Table Mountain Quadrangle (Stewart and others, 1994).
- Ttj Breccia and tuff (Oligocene) Heterogeneous unit of pale-green, crystal- and lithic-rich tuff and coarse lithic breccia near southeast corner of quadrangle. Densely welded tuff contains about 30% fine- to medium-grained phenocrysts consisting of quartz, plagioclase, and K-feldspar, and contains abundant small fragments of pre-Tertiary metamorphic rocks and Tertiary felsite. Tuff is strongly silicized and contains oxidized disseminated pyrite. Groundmass of tuff is altered to microcrystalline felsite. Blocks of pre-Tertiary metamorphic and granitic rocks (hornfelsite phyllite, marble, sericitized granite, and hornblende diorite) and Tertiary volcanic rocks as much as 10 m in diameter are scattered throughout unit.
- Tdp Dacite porphyry (Oligocene) Small intrusion of medium-gray, medium- to coarse-grained dacite porphyry south of Red Top Gulch. Contains about 25 to 30%, 1- to 8-mm-long phenocrysts consisting of tabular to elongate plagioclase and less abundant K-feldspar and trace amounts of altered hornblende(?) in a fine-grained to microcrystalline felsite groundmass that contains abundant equant plagioclase crystals about 0.2 mm across. Deuterially altered with abundant sericite and local clots of epidote. Intrudes older andesite (Toa) unit on northwest side of Piroquette Mountain.
- Tpc Tuff of Poco Canyon(?) (Oligocene) Reddish-brown to lavender-gray, densely welded, devitrified, crystal-rich rhyolite tuff forming the crest of Piroquette Mountain. Tuff is pumice and lithic poor and contains 10 to 45% medium-grained phenocrysts composed of smoky quartz and K-feldspar and minor plagioclase. Basal part of unit includes finely laminated siltstone, quartz-rich sandstone, and lithic tuff breccia containing abundant clasts of porphyritic andesite and rhyolite porphyry as much as 1 m in diameter. Tuff is tentatively correlated with the lower cooling unit of the tuff of Poco Canyon exposed in the Stillwater Slitter Range on the basis of petrographic and modal similarities.
- Tst Sedimentary rocks and tuff (Oligocene) White to light-green, crystal-poor, pumice-rich, water-laid(?) rhyolite tuff and fine-grained tuffaceous sedimentary rocks. Tuff contains about 10% phenocrysts consisting of K-feldspar, less abundant plagioclase, and minor quartz. Tuff commonly contains distinctive clasts as long as 50 cm of dark-gray to black, very finely laminated siliceous rock that probably originally formed in a hot spring. Locally includes white to light-green, crystal-poor, rhyolite lava flows. Rocks are devitrified and commonly are argillically altered.
- Tec Tuff of Elevation Canyon (Oligocene) Black, greenish-gray, and white, crystal-rich rhyolite to low-silica dacite ash-flow tuff. Contains 30 to 50% phenocrysts consisting of medium-grained plagioclase, less abundant sanidine and quartz, 1 to 5% biotite, and <1% hornblende. Generally densely welded. Commonly contains abundant dark-green, chloritized, crystal-rich, flattened pumice clasts as long as 6 cm and abundant fragments of pre-Tertiary rocks and the older andesite (Toa) unit. Megabreccia blocks consisting of internally shattered marble (m), black hornfels (h), and older andesite (a) as large as 100 m are common. Horizons containing coarse blocks of Mesozoic rocks and older Tertiary rocks and zones of megabreccia (br) are present near Elevation Canyon. Tuff is generally strongly pyrolytized, argillized, or bleached. Biotite K-Ar age of 24.5±0.9 Ma on a sample collected in Table Mountain Quadrangle (Stewart and others, 1994).
- Ttj Tuff of Job Canyon (Oligocene) White, dark-gray, and dark-brown, densely welded, rhyolite ash-flow tuff. Contains about 20 to 30% phenocrysts consisting of fine-grained plagioclase and less abundant K-feldspar. Devitrified and commonly argillically altered. Locally lithic-rich containing abundant clasts of andesite and flow-banded rhyolite.
- Tor Older rhyolite (Oligocene) Red, light-purple, green, black, and gray, generally sparsely porphyritic rhyolite and dacite lava flows, flow breccia, and shallow intrusive rocks. Generally contains 5 to 15% medium-grained phenocrysts composed of plagioclase and K-feldspar, minor strongly resorbed quartz, and trace amounts of altered mafic minerals (hornblende?) in a microfelsite groundmass. Generally strongly flow banded. Gradational contact with older andesite (Toa) unit on west side of Piroquette Mountain.
- Toa Older andesite (Oligocene) Dark-green, dark-gray, and dark-lavender-gray, aphyric to medium-grained, porphyritic andesite and dacite lava flows and minor quartz-bearing siltstone (?) tuff. Phenocrysts consist of medium-grained tabular plagioclase, hornblende, and local biotite. Generally altered to porphyritic mineral assemblages containing abundant epidote, chlorite, and sericite. Locally flow banded. Gradational contact with older rhyolite (Tor) unit on west side of Piroquette Mountain. Forms large outcrops on east side of Dixie Valley, small outcrop south of Elevation Canyon on west side of Dixie Valley, and andesite megabreccia blocks (a) enclosed within tuff of Elevation Canyon.
- Tot Older tuff (Oligocene) White, light-green-gray, and orange-brown, crystal-poor, rhyolite ash-flow tuff. Contains 35 to 55% fine- to medium-grained phenocrysts consisting of K-feldspar, lesser plagioclase and clear to smoky quartz, and 0 to 1.5% biotite. Devitrified, generally densely welded, and commonly argillically altered. Locally contains abundant pre-Tertiary lithic fragments.

METAMORPHIC ROCKS

- Msa Metasedimentary rocks (Mesozoic) Dark-gray to black strongly foliated phyllite, metasediments, and metasiltsstone along south side of Elevation Canyon. Rocks are generally hornfelsed and phyllites commonly contain andalusite porphyroblasts. Resembles rocks in the Sand Springs assemblage of Ockow (1994) which contain fossils of probable Triassic and Jurassic age (see John and Silberling, 1994).
- Msp Phyllite (Mesozoic) Dark-gray to black phyllite on southeast side of Dixie Valley. Rock has strong lineation and cleavage and commonly forms ribs and pencils. Tentatively correlated with Triassic and Jurassic rocks in the Clam Alpine sequence (N.J. Silberling, oral commun., 1993).

See accompanying pamphlet for references and discussion of the general geology and structural history of the southern Stillwater Range.

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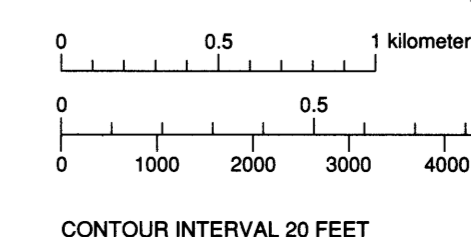
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GEOLOGIC MAP OF THE PIROUETTE MOUNTAIN QUADRANGLE, NEVADA

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1995

Scale 1:24,000



CONTOUR INTERVAL 20 FEET

Base map: U.S. Geological Survey
Piroquette Mountain 7.5 Quadrangle,
1972