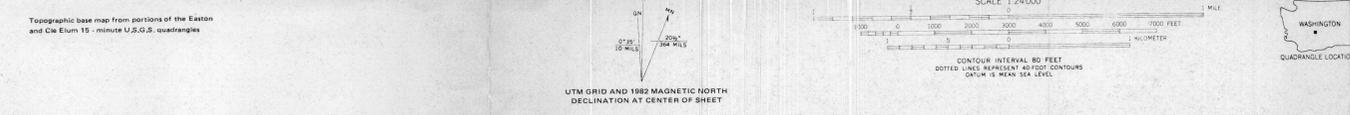


DESCRIPTION OF ROCK UNITS

- SEDIMENTARY AND EXTRUSIVE IGNEOUS ROCKS**
- Tgr** Grande Ronde Formation: Consists of dense, black, aphanitic basalt flows composed of calcium-rich plagioclase, pyroxene, and varying amounts of glass. Pillows occur locally and columnar jointing is common. Interbeds of volcanoclastic rocks belonging to the Ellensburg Formation are present, but not mapped separately. K-Ar ages indicate a late-early to middle Miocene Age (16.5-14 m.y.B.P.), Tabor and others (1982, p. 13).
  - Tdb** Basalt of Frost Mountain: Dense, black, fine- to medium-grained, microporphyrific flows consisting of calcium-rich plagioclase, pyroxene, olivine, and devitrified glass. Amygdules of chalcedony and calcite are locally common. The unit is restricted to the Frost Mountain area. An age of at least 47 m.y.B.P. has been determined from whole-rock K-Ar ages. However, one basalt sample had an age of 32.2 ± .04 m.y.B.P., Tabor and others (1982, p. 11).
  - Tta** Taneum Andesite: Composed of bluish-green to gray, volcanoclastic and pyroclastic rocks and interlayered volcanic flows. The basalt flows in this unit are brownish red. The most common rock type is andesite, but basalt, dacite, and rhyolite are present. Volcanic breccias, mudflows, and tuffs are common. The rocks are altered to carbonates, chalcedony, zeolites, and clay minerals. The original glass contained in many of the volcanic rocks has devitrified. Two fission track dates of zircons from rhyolite ash-flow tuffs have ages of 51.8 ± 1.0 m.y.B.P. and 46.2 ± 1.1 m.y.B.P., Tabor and others (1982).
  - Tm** Manastash Formation: Light gray to tan unit consisting of sandstone, siltstone, mudstone, shale, coal, and conglomerate. The sandstone is composed of very fine to very coarse sand, which is generally moderately sorted and subangular to angular. Sandstone composition is 23 to 84% quartz, 5 to 77% feldspar, and 0 to 30% lithic fragments. The rocks are locally micaceous and/or carbonaceous in places. Plant fossils are common in the carbonaceous rocks.
- INTRUSIVE IGNEOUS ROCKS**
- pJes** Eastor Schist: Heterogeneous unit consisting of graphitic phyllite, micaceous phyllite, greenschist, and intercalated glaucophane schist, and amphibolite.
- METAMORPHIC ROCKS**
- pTdg** Quartz Diorite Gneiss: The gneisses are coarse-grained and granoblastic. The gneiss foliation is caused by the alignment of mafic minerals. Mineral composition is plagioclase, hornblende, quartz, chlorite, epidote, opaque minerals, and clay minerals. The plagioclase is almost entirely altered to clay minerals, while the hornblende is partially altered to chlorite.
- REFERENCES CITED**
- Stout, W.L., 1964, Geology of a part of the south-central Cascade Mountains, Geological Society of America Bulletin, v. 75, no. 4, p. 317-334.
- Tabor, R.V.; Waitt, Jr., R.B.; Frizzell, Jr., V.A.; Swanson, D.A.; Byerly, G.R.; and Bentley, R.D., 1982, Geologic Map of the Wenatchee 1:100,000 Quadrangle, Central Washington: U.S. Geologic Survey Map I-1311, 26 p., 1 sheet, scale 1:100,000.

GEOLOGIC SYMBOLS

- Approximate contact
- Contact mapped from air photos and/or aeromagnetic maps
- U/D High angle fault (well-located), movement - U (up) and D (down); dashed where inferred
- Strike and dip of beds
- Anticline (showing direction of plunge)
- Syncline (showing direction of plunge)



Geologic Map of Part of the Taneum and Manastash Creek Area, Kittitas County, Washington

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