

GEOLOGIC MAP OF THE OROVILLE QUADRANGLE, OKANOGAN COUNTY, WASHINGTON

EXPLANATION

SURFICIAL DEPOSITS

QUATERNARY

Holocene

Pleistocene

Qal **Qe**
Alluvium, colluvium, eluvium
Qal, alluvium, mainly flood-plain deposits of silt, sand, and gravel
Qt, talus deposits
Qf, fan deposits comprised of silt, sand, and gravel
Qs, eolian sand deposits
Qe, evaporite deposits, chiefly gypsum and epsom salts.

Qd
Glacial drift
Terraced deposits of gravelly silt and sand or formless mantle of silt, sand, and gravel.

EPICLASTIC SEDIMENTARY ROCKS AND
HYPABYSSAL INTRUSIVE AND
EXTRUSIVE IGNEOUS ROCKS

TERTIARY

Eocene

Relative ages unknown

Tca **Tcb**
Volcanic conglomerate and breccia
Tca, conglomerate; dacite and andesite clasts
Tcb, breccia; dacite and andesite clasts

Ta
Augite andesite

Td **Td**
Hornblende dacite

Tw
Volcanic tuff, conglomerate, crystal-lithic tuff

Tsg **Ts** **Tsm** **Tsgm**

Ts, arkose
Tsg, conglomerate derived chiefly from granitic rocks
Tsm, conglomerate derived chiefly from metamorphic rocks
Tsgm, conglomerate derived chiefly from granitoid alkalic rocks

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Tbx **Tmg** **Tfg**

Alkalic rocks of Copper Mountain and Oroville diatremes¹
Tbx, brecciated syenite and alloclastic intrusion breccia
Tmg, malignite and malignite breccia
Tfg, fenite and fenite breccia

PLUTONIC AND METAMORPHIC ROCKS

JURASSIC OR CRETACEOUS

Paleocene

Colville batholith

Tog **Togd** **Totg** **Tosg** **Tosy**

Rocks of Okanogan gneiss dome
Togd, granodiorite, porphyritic granodioritic gneiss
Totg, layered granitoid gneiss
Tog, gneissic gabbro
Tosy, syenite

Kjfd
Felsic to intermediate dikes, sills, and small plugs

Kjec **Kjel**

Ellemeham Formation
Kjec, siltstone, conglomerate, and breccia, weakly metamorphosed
Kjel, lava and tuff, weakly metamorphosed

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JRwg **JRwm**

Whisky Mountain pluton
JRwg, porphyritic quartz monzonite and granodiorite
JRwm, fine-grained mafic monzonite

JRoqd **JRom**

Osyoos pluton
JRoqd, gneissic quartz diorite
JRom, fine-grained mafic diorite

JRsg **JRsm** **JRsb**

Silver Nail Lake pluton
JRsg, quartz diorite
JRsm, fine-grained mafic metagabbro
JRsb, intrusive breccia

JRef
Ellisforde pluton
Crushed and brecciated quartz monzonite

JRs **JRpy**

Ultramafic dikes or sills
JRs, serpentinite
JRpy, pyroxenite, gabbro

PERMIAN (?) AND TRIASSIC

RPk **EPmi**

Kobau Formation
Greenstone, meta-chert
Mafic intrusive rocks
Fine to medium grained meta-dabase

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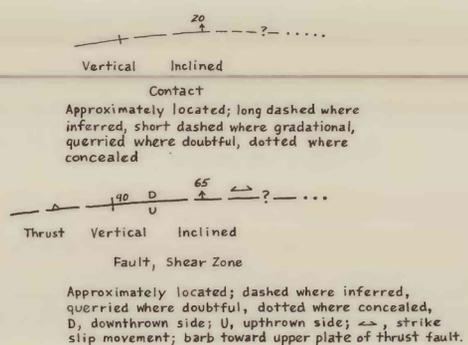
Pbm **Pbml**

Bullfrog Mountain Formation
Pbm, slate, phyllite, meta-sharpstone conglomerate
Pbml, fine-grained impure marble

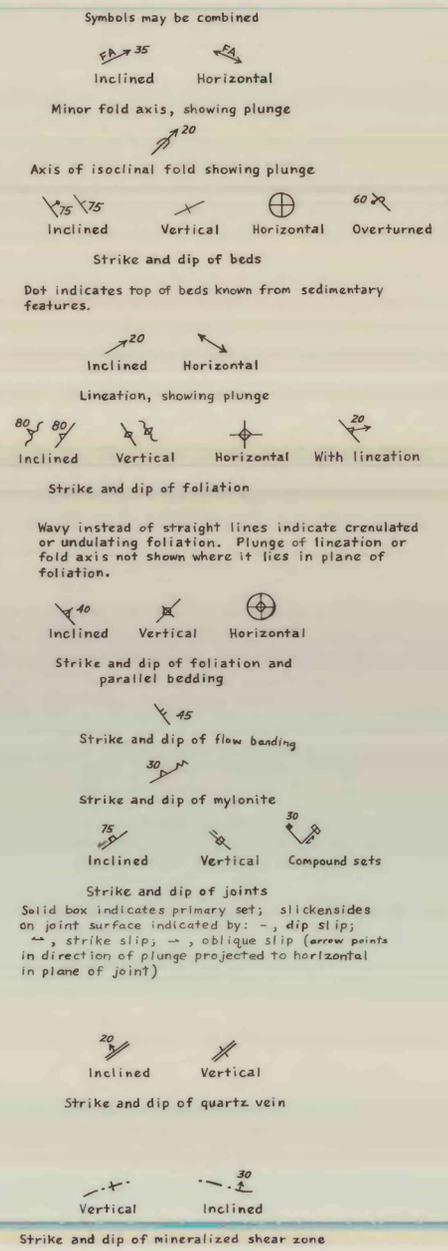
Spectacle Formation

Upper member:
Psc, slate, phyllite, meta-sharpstone conglomerate
Psl, fine-grained impure marble
Psls, silicified fine-grained marble
Psg, massive dark gray quartzite

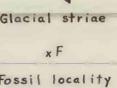
Lower member:
Ps, slate, phyllite, minor greenstone
Psg, greenstone, amphibolite



PLANAR AND LINEAR FEATURES



OTHER FEATURES



This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey standards and nomenclature.

U. S. Geological Survey, 1968, Geological Survey Research 1968, Chapter A: U.S. Geol. Survey Prof. Paper 600-A, p. A102.