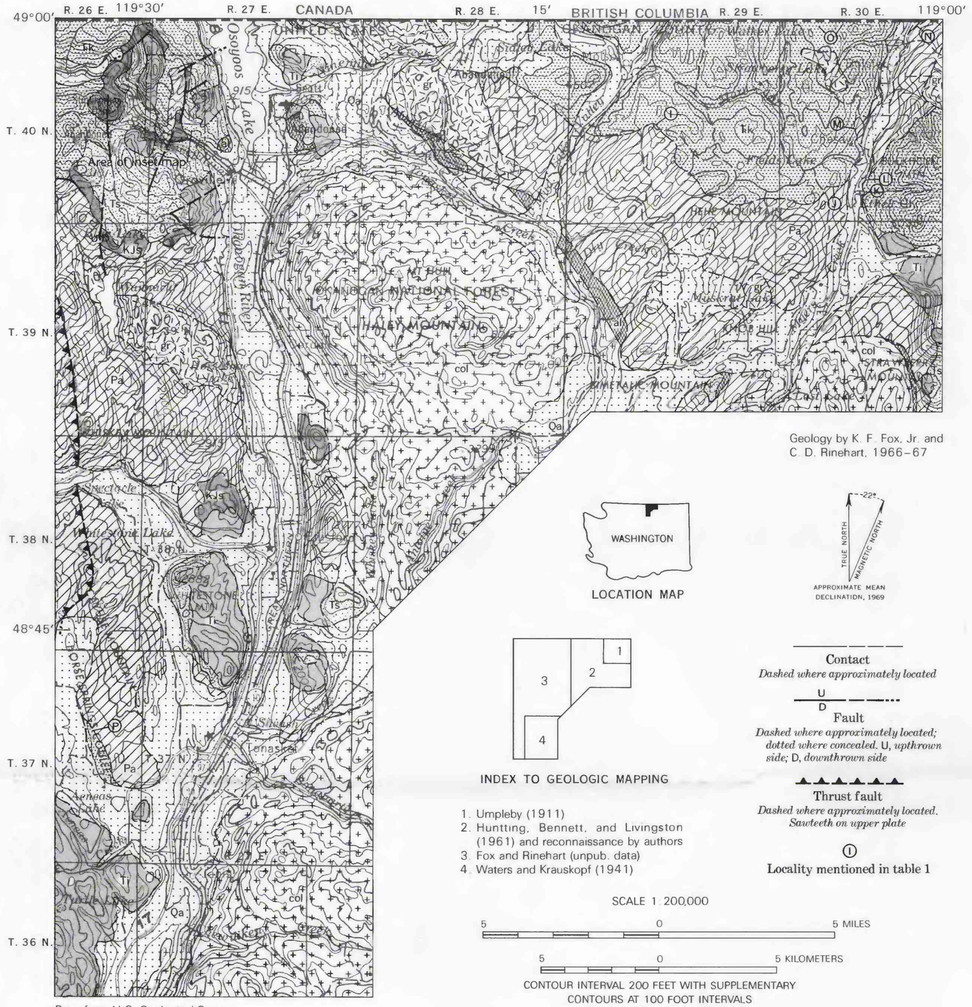


Geology by K. F. Fox, Jr. and C. D. Rinehart, 1966–67

Base from U.S. Geological Survey, Okanogan 1:250,000, 1954

LOCATION MAP

APPROXIMATE MEAN DECLINATION, 1969

INDEX TO GEOLOGIC MAPPING

1. Umpleby (1911)
2. Huntting, Bennett, and Livingston (1961) and reconnaissance by authors
3. Fox and Rinehart (unpub. data)
4. Waters and Krauskopf (1941)

Contact
Dashed where approximately located

U/D Fault
Dashed where approximately located; dotted where concealed. U, upthrown side; D, downthrown side

Thrust fault
Dashed where approximately located. Sawteeth on upper plate

(1) Locality mentioned in table 1

SCALE 1:200,000

5 0 5 MILES

5 0 5 KILOMETERS

CONTOUR INTERVAL 200 FEET WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS
TRANSVERSE MERCATOR PROJECTION

NORTHERN OKANOGAN COUNTY

EXPLANATION

QUATERNARY

Qa — **Surficial deposits**
Alluvium, glacial drift, and outwash

TERTIARY

Ti — **Volcanic rocks**
Mostly flow rocks; include plugs, hypabyssal intrusive rocks, and minor intercalated sedimentary rocks

Ts — **Sedimentary rocks**
Sandstone, graywacke, tuff, conglomerate and shale

UNCONFORMITY

JURASSIC AND CRETACEOUS

KJs — **Spilite and probable stratigraphic equivalents**
Greenstone and conglomerate. Slightly metamorphosed locally

TRIASSIC TO TERTIARY

Plutonic rocks (relative ages not implied)

col — **Colville batholith**
Paragneiss, orthogneiss, and granodiorite of probable Cretaceous age

gr — **Granitic rocks**
Diorite, quartz diorite, granodiorite, quartz monzonite, and granite

al — **Alkalic rocks**
Syenite, malignite, and associated pyroxenite

UNCONFORMITY

TRIASSIC(?)

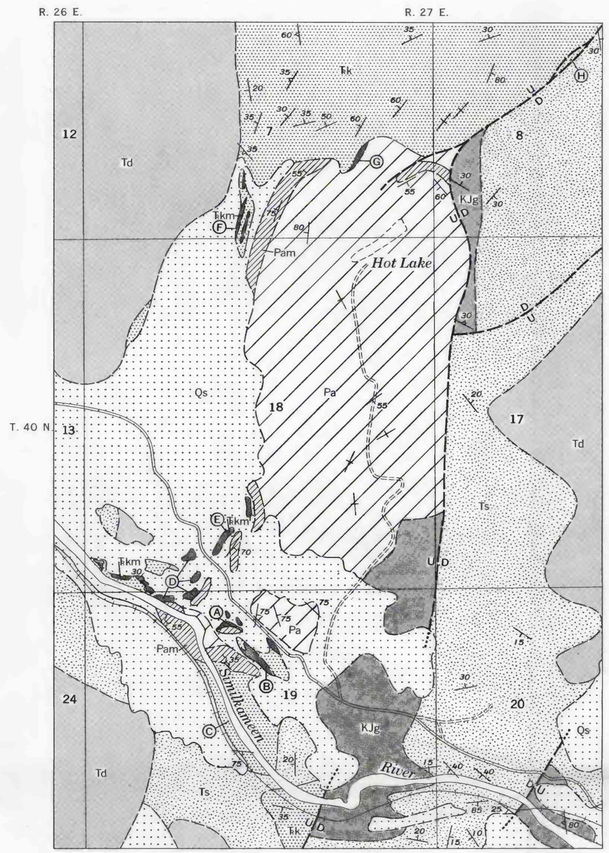
Slightly to moderately metamorphosed rocks

Ŧk — **Kobau Group of Bostock (1940) and probable stratigraphic equivalents**
Tuffaceous sedimentary rock, lava flows, limestone, dolomite, and bedded chert. May include older rocks, locally.

UNCONFORMITY

PERMIAN

Pa — **Anarchist Series of Daly (1912)**
Chert-conglomerate, graywacke, slate, limestone, and siltstone



Base from U.S. Geological Survey, Oroville 1:62,500, 1957

Geology compiled by K. F. Fox, Jr. and C. D. Rinehart, 1966–67

SCALE 1:20,000

0 ½ 1 MILE

HOT LAKE AREA

EXPLANATION

QUATERNARY

Pleistocene

Qs — **Glacial drift, fans, and terrace deposits**
Gravel, sand, and silt, poorly sorted

TERTIARY

Eocene

Td — **Dacite**
Biotite-hornblende dacite, intrusive

Ts — **Sedimentary rocks**
Conglomerate and sandstone

UNCONFORMITY

JURASSIC OR CRETACEOUS

KJg — **Greenstone**
Slightly metamorphosed basalt and dacite

UNCONFORMITY

TRIASSIC(?)

Ŧk, Ŧkm — **Kobau Group of Bostock (1940)**
Greenstone and quartzite
Ŧkm, *magnesite*

UNCONFORMITY

PERMIAN

Pam, Pa — **Anarchist Series of Daly (1912)**
Pam, *marble*
Pa, *slightly metamorphosed conglomerate, graywacke, and siltstone*

Contact
Dashed where approximately located

U/D Fault
Dashed where approximately located, dotted where concealed. U, upthrown side, D, downthrown side

15 *Inclined* — *Vertical* — 35 *Crumpled*
Strike and dip of beds

35 *Inclined* — 30 *Crumpled*
Strike and dip of schistosity

(A) Locality mentioned in table 1

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D.C.—G69006—1969

GENERALIZED AND DETAILED GEOLOGIC MAPS OF PART OF NORTHERN OKANOGAN COUNTY, WASHINGTON