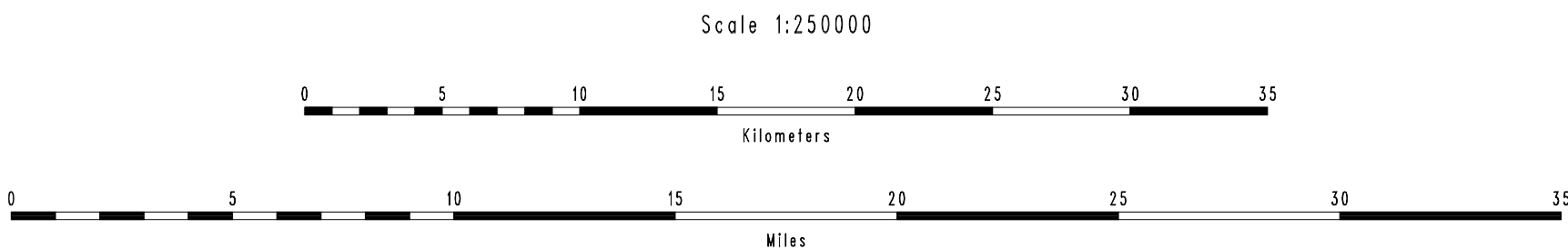


map projection: Transverse Mercator

Geology by J.E. Harrison, J.E. Cressman, and J.W. Whipple (1992). Initial digitizing by EROS Data Center (pre-1994). Digital database by H.Z. Kayser (Information Systems Support, Inc.), P.D. Derkey (USGS), assisted by R.J. Miller (USGS). Database approved for publication October 5, 2000.

Geologic and Structure Maps of the Kalispell 1° x 2° Quadrangle, Montana, and Alberta and British Columbia: A Digital Database

By
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Digital database by
Helen Z. Kayser, Pamela D. Derkey, and EROS Data Center
2000
(map originally published in 1992)



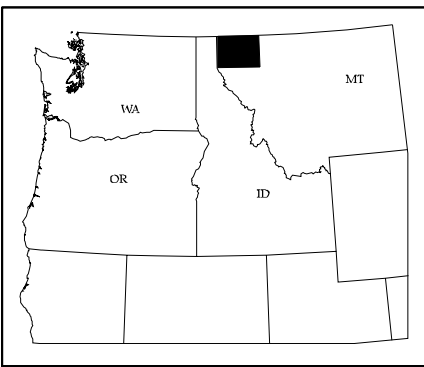
Explanation

DESCRIPTION OF MAP UNITS	
Qal - Alluvial deposits (Holocene)	Ye - Empire Formation (Middle Proterozoic)
Qs - Landslide deposits (Holocene)	Yar - St. Regis Formation (Middle Proterozoic)
Qg - Glacial and fluvio-glacial deposits (Pleistocene)	Yr - Revett Formation (Middle Proterozoic)
Ql - Lake sediments (Pleistocene)	Ys - Spokane Formation (Middle Proterozoic)
Tk - Kishenehn Formation (Oligocene)	Ygl - Grinnell Formation (Middle Proterozoic)
Kg - Felsic plutons (Cretaceous)	Yb - Burke Formation (Middle Proterozoic)
Ks - Syenite (Cretaceous)	Yu - Unnamed formation (Middle Proterozoic)
Kpy - Pyroxenite (Cretaceous)	Yap - Appekunny Formation (Middle Proterozoic)
Jf - Fernie Formation (Jurassic)	Yd - Mafic sills (Middle Proterozoic)
Mz - Mesozoic sedimentary rocks, undivided	Richard Formation (Middle Proterozoic)
PPr - Rocky Mountain Formation (Permian and Pennsylvanian?)	Ypt - Transition member
Mu - Mississippian sedimentary rocks, undivided	Ypu - Upper member
Du - Devonian sedimentary rocks, undivided	Ypq - Quartzite member
Cu - Middle Cambrian sedimentary rocks, undivided	Ypa - Argillite member
Dcu - Devonian and Middle Cambrian sedimentary rocks, undivided	Ypl - Lower part
ZYd - Mafic sills (Late and Middle Proterozoic)	
Libby Formation (Middle Proterozoic)	
Ylu - Upper part	
Yl - Libby Formation, undivided	
Ym - McNamara Formation (Middle Proterozoic)	
Ybo - Bonner Quartzite (Middle Proterozoic)	
Ybos - Siltite facies	
Mount Shields Formation (Middle Proterozoic)	
Ymsu - Upper part	
Yms - Mount Shields Formation, undivided	
Ysh - Shepard Formation (Middle Proterozoic)	
Ypr - Purcell Lava (Middle Proterozoic)	
Snowslip Formation (Middle Proterozoic)	
Yen - Red and green facies	
Yang - Green facies	
Wallace Formation (Middle Proterozoic)	
Ywu - Upper member	
Ywm - Middle member	
Ywl - Lower member	
Yw - Upper, middle, lower members, undivided	
Yew - Shepard, Snowslip, and Wallace Formations, undivided (Middle Proterozoic)	
Yh - Main body of the Helena Formation (Middle Proterozoic)	
Yhl - Lower member	
Yhw - Main body of the Helena Formation and middle member of the Wallace Formation, undivided (Middle Proterozoic)	

Contact; dotted where concealed.
Fault, unknown offset; dotted where concealed.
High-angle fault, known offset; dotted where concealed. Ball and bar on downthrown side.
Strike-slip fault; dotted where concealed. Arrows shown direction of apparent strike slip.
Right-lateral strike-slip fault with vertical motion; dotted where concealed. Ball and bar on downthrown side.
Thrust fault; dotted where concealed. Sawteeth on upper plate.
Backslid thrust fault. Thrust fault with later normal movement. Dotted where concealed. Sawteeth on upper plate; tics point in direction of backsliding.
Anticline
Syncline
Terrace or monoclinial fold
Overtured anticline
Overtured syncline
Td - Dikes (Tertiary?); dotted where concealed.
ZYd - Mafic sills (Late and Middle Proterozoic); dotted where concealed.
Yla - Basalt; dotted where concealed.
Ypr - Purcell Lava (Middle Proterozoic); dotted where concealed.
Yd - Mafic sills (Middle Proterozoic); dotted where concealed.

References

Harrison, J.E., Cressman, E.R., and Whipple, J.W., 1992. Geologic and structure maps of the Kalispell 1- by 2-degree quadrangle, Montana, and Alberta and British Columbia: U.S. Geological Survey Miscellaneous Investigations Map I-2267.



Index map showing Kalispell quadrangle

This map was printed on an electronic plotter directly from digital files. Dimensional calibration may vary between electronic plotters and between X and Y directions on the same plotter, and paper may change size due to atmospheric conditions; therefore, scale and proportions may not be true on plots of this map. Color also varies between plotters and may need to be adjusted.

Digital files are available on World Wide Web at <https://doi.org/10.3133/I2267>. The digital database is not meant to be used or displayed at any scale larger than 1:250,000 (e.g., 1:100,000 or 1:24,000).