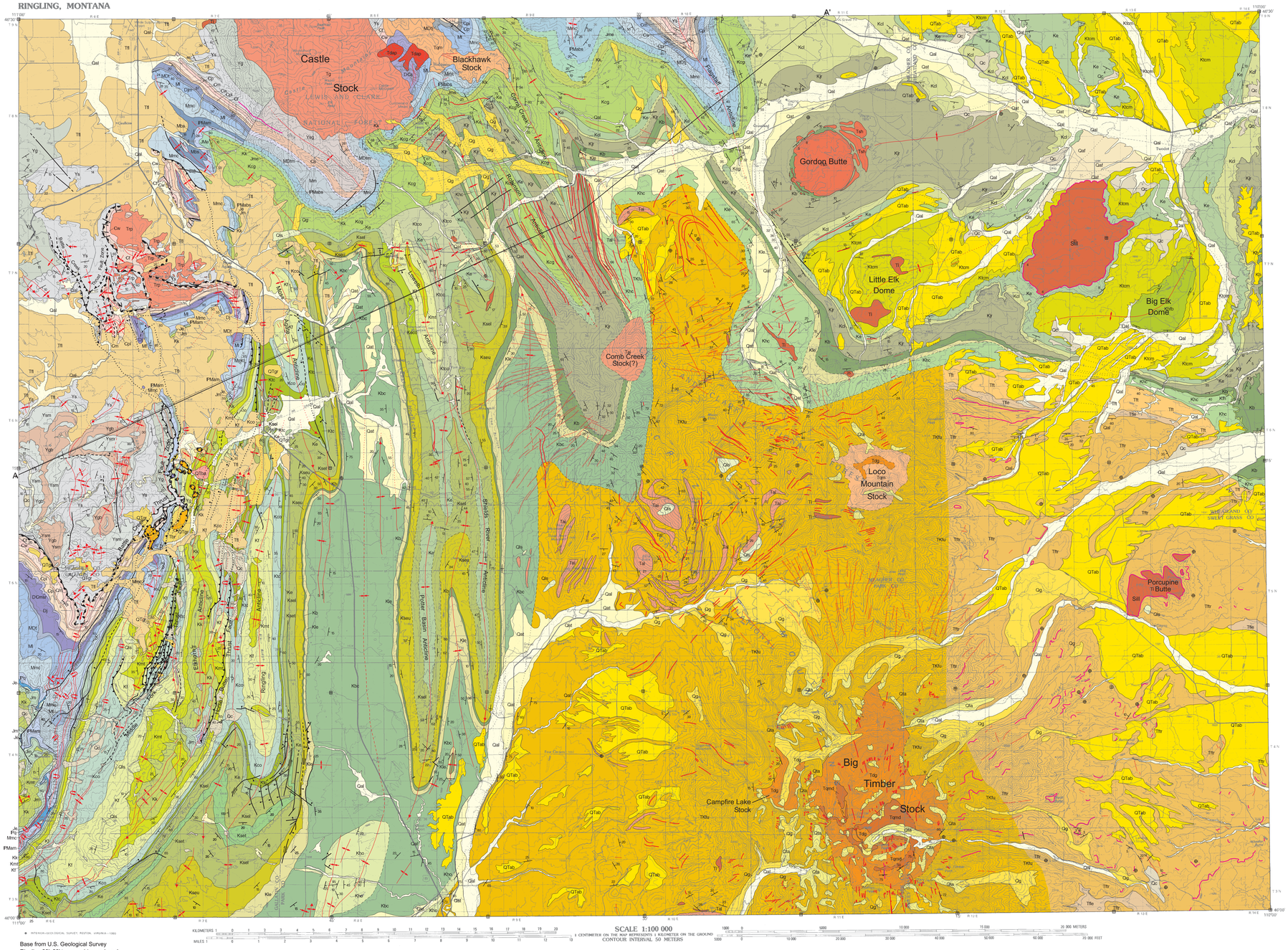
# RINGLING, MONTANA




Base from U.S. Geological Survey
Ringling 30'x60' topographic quadrangle
Map date: 1993
Projection: UTM zone 12; 1927 NAD

SCALE 1:100 000
1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON THE GROUND
CONTOUR INTERVAL 50 METERS

## MAP UNITS

- Qal — Alluvium of modern channels and flood plains
- Qls — Talus deposit
- Qrg — Rock glacier deposit
- Qc — Colluvium
- Qls — Landslide deposit
- Qaf — Alluvial fan deposit
- Qat — Alluvium of alluvial terrace
- Qg — Glacial deposit, undivided
- QTgr — Gravel
- QTab — Alluvium of braid plains
- QTba — Basaltic
- Tbr — Breccia
- Trg — Rhyolite of Black Butte Mountain
- Tqm — Quartz monzonite
- Tqmd — Quartz monzodiorite
- Tdg — Diorite and gabbro
- Tdap — Dacite porphyry
- Tal — Alkalic Intrusive
- Tsh — Shonkinite
- Tg — Granite
- Ti — Intrusive rocks, undivided
- Tfl — Fort Logan Formation
- Tfle — Lebo Member of Fort Union Formation
- Tflt — Tullock Member of Fort Union Formation
- Tftr — Tongue River Member of Fort Union Formation
- TKfu — Fort Union Formation, undivided
- Kho — Hoppers Formation
- Kbc — Billman Creek Formation
- Khc — Hell Creek Formation
- Kle — Lennep Sandstone
- Kfh — Fox Hills Formation
- Kb — Bearpaw Shale
- Kseu — Sedan Formation, upper member, informal
- Ksel — Sedan Formation, welded tuff member, informal
- Ksel — Sedan Formation, lower member, informal
- Kjr — Judith River Formation
- Kcl — Claggett Shale
- Ke — Eagle Formation
- Klc — Telegraph Creek Formation
- Kel — Eagle and Telegraph Creek Formations, undivided
- Kco — Cody Shale
- Ktco — Telegraph Ck Fm and Cody Shale, undivided
- Kseo — Eagle Fm, Telegraph Ck Fm, and Cody Shale, undivided
- Kf — Frontier Formation
- Ktcm — Telegraph Creek and Marias River Formations, undivided
- Kbfb — Big Elk Sandstone Member of Belle Fourche Shale
- Kmt — Mowry Shale and Thermopolis Formation, undivided
- Kcg — Colorado Group, undivided
- Kk — Kootenai Formation
- Jm — Morrison Formation
- Je — Ellis Group, undivided
- Jme — Morrison Formation and Ellis Group, undivided
- Pq — Quadrant Formation
- PMam — Amsden Group, undivided
- PMabs — Amsden and Big Snowy Formations, undivided
- Mbs — Big Snowy Group, undivided or Big Snowy Formation
- Mmc — Mission Canyon Limestone
- Ml — Lodgepole Limestone
- Mm — Madison Group, undivided
- MDf — Three Forks Formation
- Dj — Jefferson Formation
- MDtj — Three Forks and Jefferson Formations, undivided
- Djm — Jefferson and Maywood Formations, undivided
- MDm — Three Forks Formation, Jefferson Dolomite and Maywood Formation
- DCmsr — Maywood and Snowy Range Fms, undivided
- DCs — Sedimentary rocks, undivided
- Cpl — Pilgrim Limestone
- Cp — Park Shale
- Cm — Meagher Limestone
- Cw — Wolsey Shale
- Cf — Flathead Formation
- Cs — Sedimentary rocks, undivided
- Ygb — Gabbro sill
- Yam — Spokane Formation, metamorphosed
- Ys — Spokane Formation
- Yg — Greyson Formation
- Ysg — Spokane and Greyson Formations, undivided

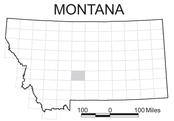
## MAP SYMBOLS

- Contact: dashed where approximately located; dotted where concealed
- Fault: unknown sense of movement; dotted where concealed
- Reverse or thrust fault: teeth on upthrown block; dashed where approximately located; dotted where concealed
- Indian Creek décollement—A plane of sliding on which locally intensely folded post-Precambrian rocks were thrust eastward into the Crazy Mountains Basin off the southeast margin of the Big Belt Mountains in late Paleocene time (Skipp and Hepp, 1968)
- Anticline: showing trace of axial plane and plunge direction where known; dotted where concealed
- Asymmetric anticline: showing trace of axial plane; dotted where concealed, shorter arrow on more steeply dipping limb
- 32 — Strike and dip of inclined bed
- 75 — Strike and dip of overturned bed
- Horizontal bed
- Vertical bed
- Dike (Ti): shown in red on map
- Dikes/Sills (Ti): shown in red on map
- Sills (Ti): shown in magenta on map

100K Quad index

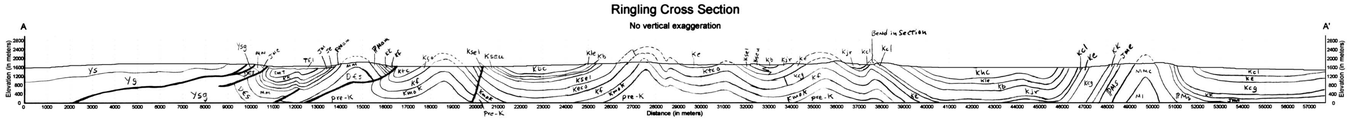
| | | |
|---|---|---|
| CANYON FERRY DAM | WHITE SULPHUR SPRINGS | BIG MOUNTAINS |
| TOWNSEND | RINGLING | HARLOWTON |
| BOZEMAN | LIVINGSTON | BIG TIMBER |

MONTANA




## Ringling Cross Section

No vertical exaggeration




Datum: Mean sea level
Quaternary deposits not shown
Dikes and sills not shown
Metamorphosed intervals of map units not shown

## STRATIGRAPHIC UNITS NOT ON MAP OR IN TEXT

- Kmok — Mowry Shale through Kootenai Formation
- Pre-K — Pre-Cretaceous sedimentary rocks, undivided
- PMS — Pennsylvanian and Mississippian sedimentary rocks, undivided
- DCS — Devonian through Cambrian sedimentary rocks, undivided
- Facies change
- Stratigraphic nomenclature change

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Maps may be obtained from
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# Preliminary Geologic Map of the Ringling 30' x 60' Quadrangle, Central Montana

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