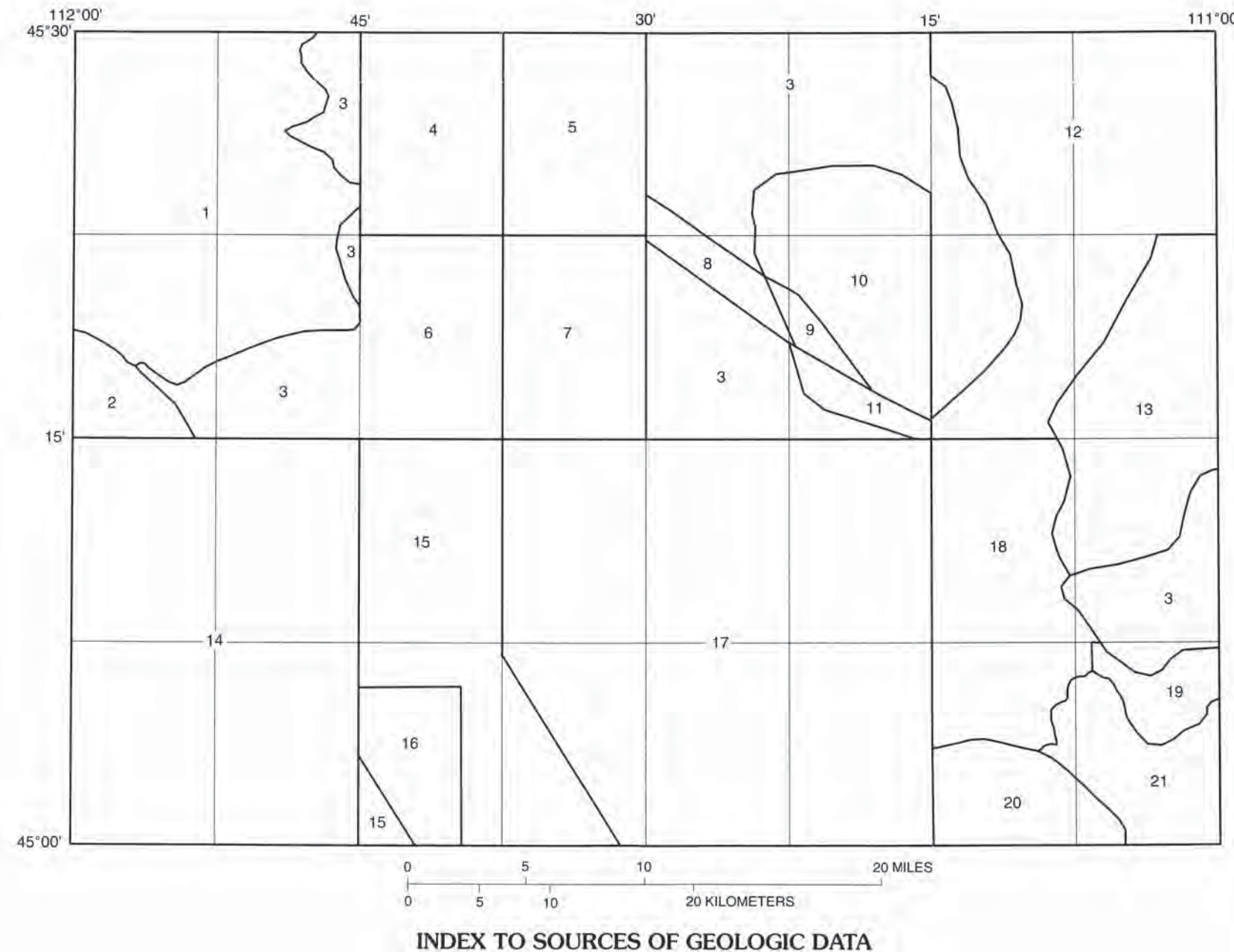


MAP UNITS

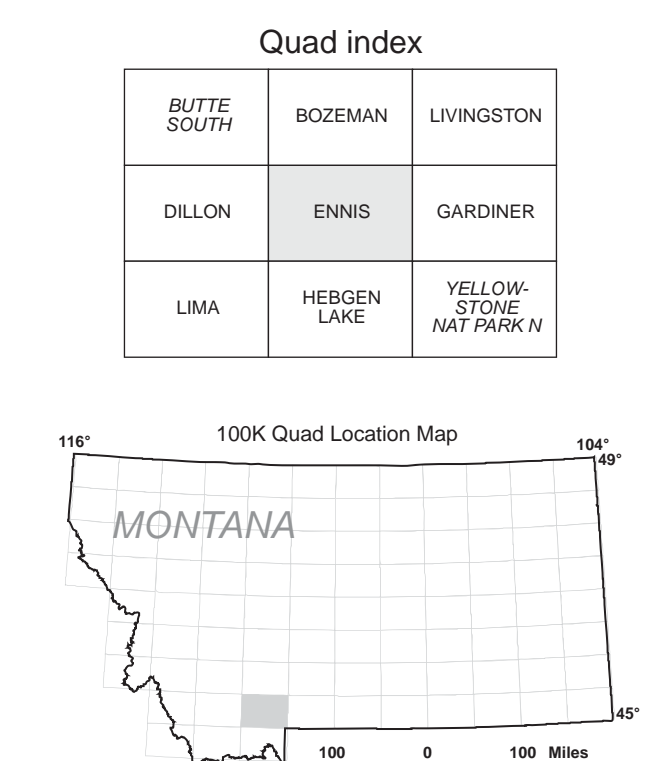
- Qal Alluvium of modern channels and flood plains
- Qf Floodplain deposit
- Qc Colluvium
- Qta Talus deposit
- Qls Landslide deposit
- Qdps Rock glacier deposit
- Qaf Alluvial fan deposit
- Qaf1 Alluvial fan deposit, youngest
- Qaf2 Cedar Creek alluvial fan deposit
- Qgl Glacial lake deposit
- Qgt Glacial till
- Qel Estimation
- Qg Gravel deposit
- Qac Alluvium of Cameron Bench
- Qgr Gravel
- Qth Basin-Hill deposit
- Th Huckleberry Ridge Tuff, undivided
- L Landslide deposit
- S Sediment or sedimentary rocks, undivided
- Ti Freshwater limestone
- D Diatomite
- And Andesite and basalt flows
- Rf Rhyolite flows
- Dac Dacite
- Fels Felsic tuff
- Vol Volcaniclastic sandstone and conglomerate deposits
- IV Intrusive rocks of Absaroka Volcanics supergroup
- IVa Absaroka Volcanic Group (part)
- IVb Andesite flows of Hyalite Peak Volcanics
- IVc Conglomerate and siltstone of Absaroka Volcanics
- Dac Dacite
- IXI Felsic intrusive rocks
- IXa Gabbro sills
- IXb Dacite porphyry
- IX Intrusive rocks of Tobacco Root Batholith, undivided
- Scg Spline Conglomerate
- Bw Beaverhead Group
- Bw1 Beaverhead and Livingston Groups, undivided
- Bw2 Livingston Formation or Livingston Group
- Bw3 Livingston Fm, upper member
- Bw4 Livingston Fm, middle member
- Bw5 Livingston Fm, lower member
- Ev Events Formation through Virgata Sandstone, undivided
- TC Telegraph Creek Formation
- Co Cody Shale
- F Frontier Formation
- MS Moberly Shale
- Mud Muddy Sandstone and Thermopile Fm, undivided
- Ko Kootenai Formation
- Mur Morrison Formation
- Els Els Group, undivided
- Mur Morrison through Dinwoody Fm., undivided
- Els Els Gp., Woodside and Dinwoody Fm., undivided
- Wd Woodside Formation
- Sh Sheeham Sandstone
- AmA Sheeham through Arden Fm., undivided
- AmB Arden and Arden Formations, undivided
- BS Big Stony Group, undivided
- M Madison Group, undivided
- ML Madison Canyon Limestone
- L Lodgepole Limestone
- MDJ Three Forks and Jefferson Formations, undivided
- CDR Big Horn Dolomite through Park Shale, undivided
- CDL Red Lion Fm. and Flynn Dolomite, undivided
- PK Park through Flathead Formations, undivided
- CL Meagher Limestone
- WV Wilsey and Flathead Formations, undivided
- Ddb Diabase dike
- Mnd Metadiabase
- Phy Phyllite
- Ea Epidote-actinolite metasediment
- BtC Biotite-chlorite schist
- BiC Banded iron formation
- Myt Mylonite schist
- BtG Biotite gneiss, quartzite, and hornblende gneiss
- GrG Granite gneiss
- GrP Granite porphyry of Hill Hoopng Creek
- GrO Granite orthogneiss
- Met Metadiabase
- Alga Hornblende-biotite granulite orthogneiss of Summit Lake
- Met Metachromatic rocks
- Alga Quartzofelsic gneiss
- Alga1 Garnetiferous gneiss of Tobacco Root Mtn.
- Alga2 Hornblende-plagioclase gneiss and amphibolite
- Ala Biotite schist
- Ala1 Gabbro-cummingtonite gneiss
- Ala2 Biotite-hornblende gneiss of Boztrap Canyon
- Ala3 Amphibole and hornblende gneiss
- Ala4 Mylonite of Crooked Creek Shear Zone
- Alga Aluminous gneiss and schist
- Almg Alting-biotite gneiss
- Qtz Quartzite
- IR Banded iron formation
- Mt Marble

SCALE 1:100,000
CENTERS ON THE NEUTRAL AXIS, 10 METERS ON THE GRID
CONTOUR INTERVAL 50 METERS
ENNIS, MONTANA-WYOMING
4511-A1-TM-100
1989

Base from U.S. Geological Survey
Ennis 30'x60' topographic quadrangle
Map date: 1989
Projection: UTM zone 12, 1927 NAD



1. Vitaleo and Cordus, 1979
2. Wier, 1982
3. Kellogg, K.S. unpub. mapping, 1994-96
4. Kellogg, 1993b
5. Kellogg, 1993a
6. Kellogg, K.S. unpub. mapping, 1993
7. Kellogg, 1992
8. Mogi, D.W. unpub. mapping, 1991
9. Salt, 1987
10. Kellogg, K.S., Lajson, D.W., and O'Neill, J.M., unpub. mapping, 1985-96
11. Tydal, R.G. (1984-86), and Kellogg, K.S. (1994-95), unpub. mapping
12. McManis and Chabick, 1964
13. Simon and others, 1985
14. Hadley, 1967b
15. Hadley, 1967a
16. Varga, 1990
17. Tydal, 1990
18. Hall, 1961
19. Modified from Todd, 1969
20. Lauer, 1967
21. U.S. Geological Survey, 1972



Montana Bureau of Mines and Geology
Open File 529
**Geologic Map of the Ennis
30' x 60' Quadrangle, Madison and
Gallatin Counties, Montana and
Park County, Wyoming**
Karl S. Kellogg and Van S. Williams,
U.S. Geological Survey, Denver, CO
2006

Maps may be obtained from
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