

Montana Bureau of Mines and Geology  
Open File No. 649

Preliminary Geologic Map of the Dearborn River 30' x 60' Quadrangle,  
West-Central Montana

Compiled by Susan M. Vuke

2014

To view a full scale version of this map, [click here](#).

For the text files with the map information, [click here](#).

[Digital data link](#)

Note— This map was originally published at a scale of 1;100,000 but the page sizes have been modified to fit average printer capabilities (8½ x 14; legal size paper). There is an eighth inch overlap on these pages. A full sized colored print of this map can be ordered from the MBMG Publication Sales Office, 1300 West Park Street, Butte, MT, 59701-8997.

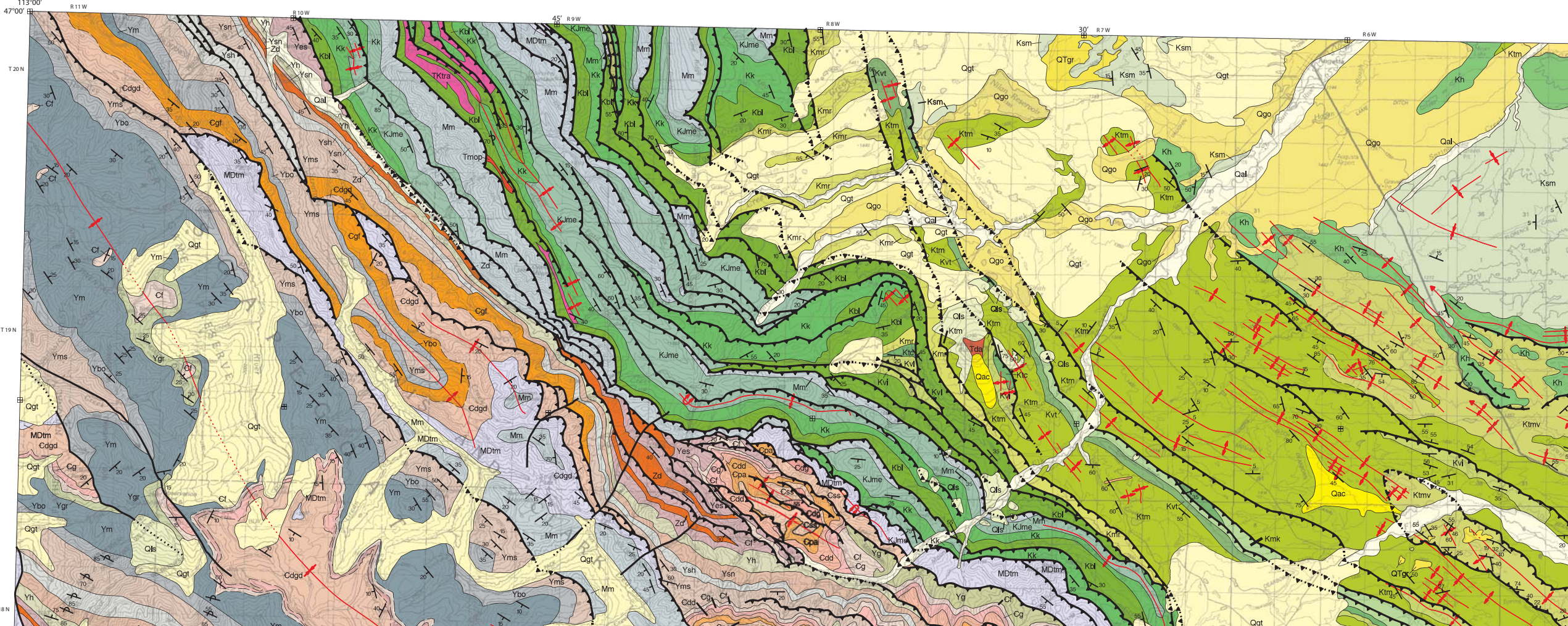
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MONTANA BUREAU OF MINES AND GEOLOGY  
A Department of Montana Tech of The University of Montana



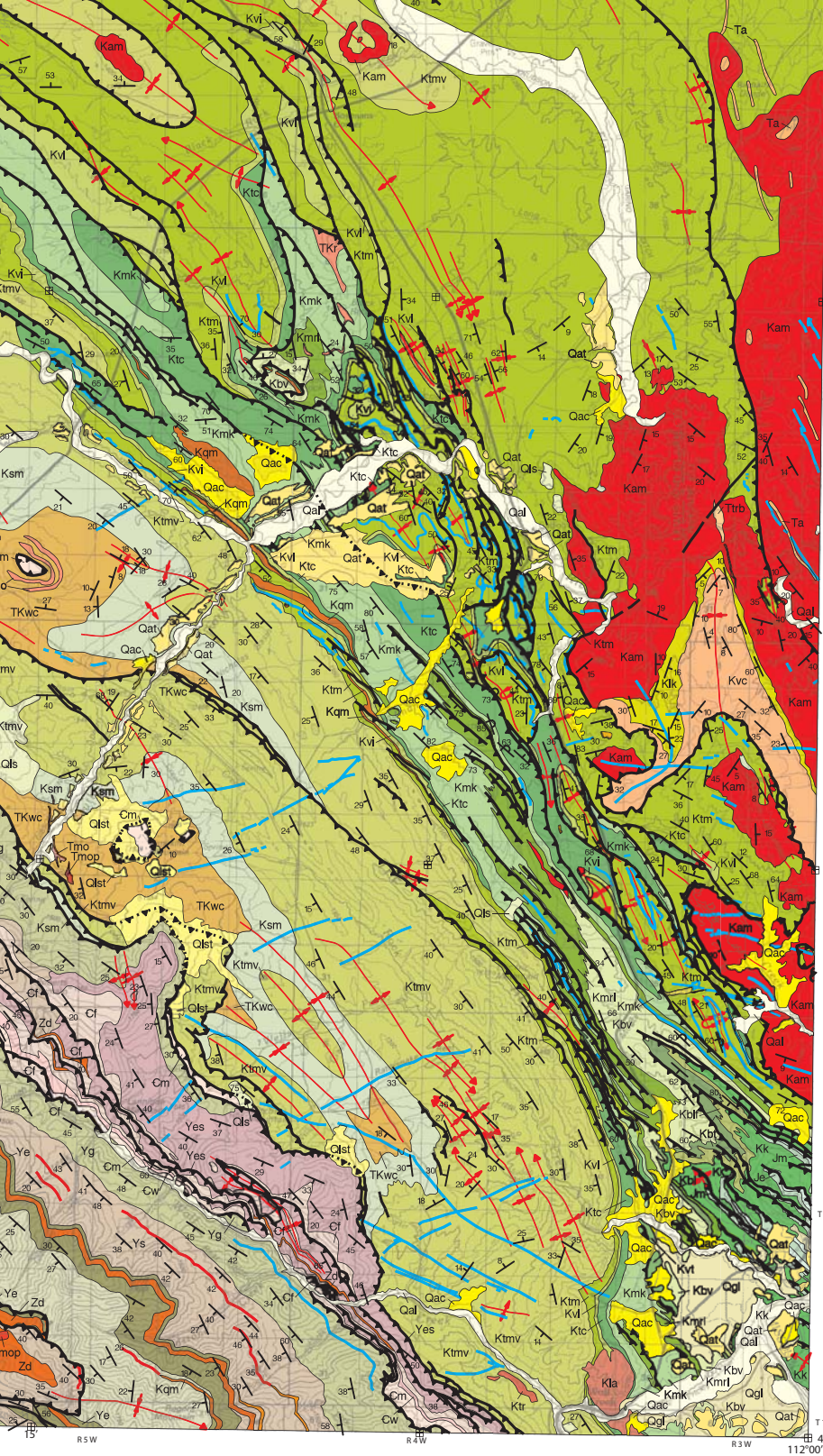








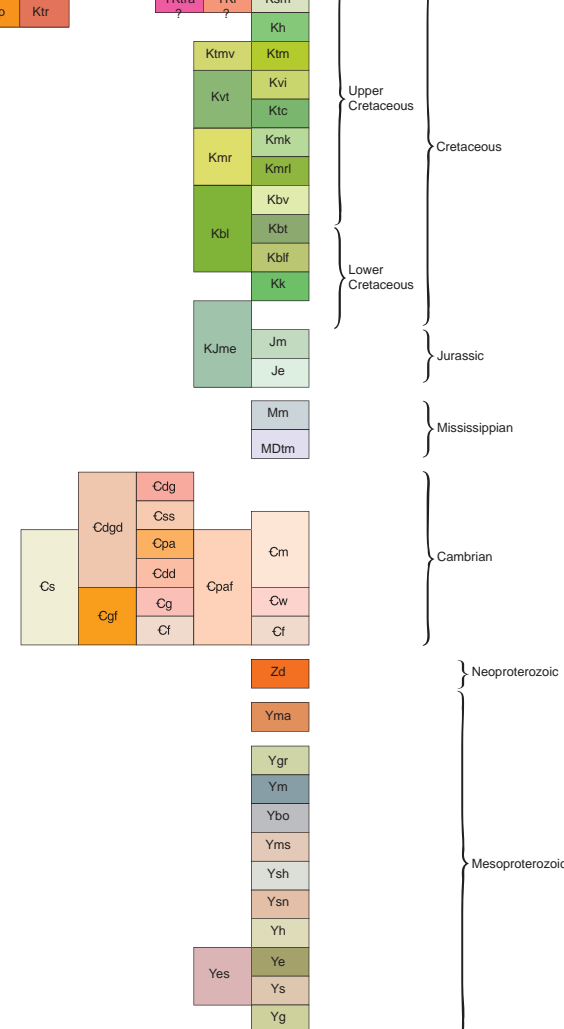




### MAP UNITS

- Qal Alluvium
- Qac Alluvium and colluvium, undivided
- Qls Landslide deposit
- Qlst Landslide and talus deposits, undivided
- Qat Alluvial terrace deposit
- Qgt Glacial till
- Qgo Glacial outwash deposit
- Qgl Glacial lake deposit
- Qgof Glacial outwash fan
- QTgr Gravel
- Ta Andesite
- Tba Basalt
- Tda Dacite
- Tmo Monzonite
- Tmop Monzonite porphyry
- Ttrb Trachybasalt
- Trb Rhyolite
- Ttu Tuff
- Ts Sediment or sedimentary rocks, undivided
- TKtra Trachyandesite
- TKr Rhyolite
- TKwc Willow Creek Formation
- Kam Adel Mountain Volcanics
- Kk Lacustrine deposits
- Kvc Volcanic conglomerate
- Kla Laitite
- Kqm Quartz monzonite porphyry
- Kthp Rhyodacite porphyry
- Ktr Trachyte
- Ksm St. Mary River Formation
- Kh Horsethief Formation
- Ktm Two Medicine Formation
- Ktmv Two Medicine Formation, volcanic facies
- Kvt Virgelle and Telegraph Creek Formations, undivided
- Kvi Virgelle Formation
- Ktc Telegraph Creek Formation
- Kmr Marias River Formation

- Kmk Marias River Formation, Kevin Member
- KmrI Marias River Formation, lower member
- Kbl Blackleaf Formation
- Kbv Blackleaf Formation, Vaughn Member
- Kbt Blackleaf Formation, Taft Hill Member
- Kblf Blackleaf Formation, Flood Member
- Kk Kootenai Formation
- KJme Mount Pablo and Morrison Fms., and Ellis Group, undivided
- Jm Morrison Formation
- Je Ellis Group, undivided
- Mm Madison Group, undivided
- MDtm Three Forks, Jefferson, and Maywood Formations
- Cs Sedimentary rocks, undivided
- Cdgd Devils Glen through Damnation Formation, undivided
- Cdg Devils Glen Formation
- Css Switchback and Steamboat Formations
- Cpat Pagoda through Flathead Formation, undivided
- Cm Meagher Limestone
- Cpa Pagoda Limestone
- Cdd Dearborn and Damnation Formations, undivided
- Cgf Gordon and Flathead Formations, undivided
- Cw Wolsey Shale
- Cg Gordon Shale
- Cf Flathead Formation
- Zd Diorite
- Yma Meta-andesite and metadiorite
- Ygr Garnet Range Formation
- Ym McNamara Formation
- Ybo Bonner Formation
- Yms Mount Shields Formation
- Ysh Shepard Formation
- Ysn Snowship Formation
- Yh Helena Formation
- Yes Empire and Spokane Formations, undivided
- Ye Empire Formation
- Ys Spokane Formation
- Yg Greyson Formation



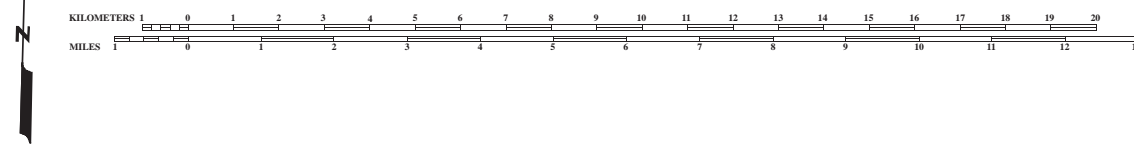
Compilation sources and index of 7.5' quadrangles

113° 47'30"	Wood Lake	Double Falls	Nilan Reservoir	Augusta	Gouchour Ranch	Bowmans Corners NW	Bowmans Corners NE	112°
5, 6	5, 6	1, 5, 6	1, 5, 6	5, 6	2	2	5	
Flint Mountain	Scapegoat Mountain	Jakie Creek	Steamboat Mountain	Bean Lake	Krone Ranch	Bowmans Corners	Henry Creek	
5, 6	5, 6	3, 5, 6	3, 5, 6	5, 6	2	2	5	
Lake Mountain	Olson Peak	Heart Lake	Caribou Peak	Blowout Mountain	Johnson Mountain	Comb Rock	Coburn Mountain	
5, 6	5, 6	11	11	4, 11	4, 11	8	7	
Coopers Creek	Arrastra Mountain	Stonewall Mountain	Silver King	Cadotte Mountain	Rogers	Roberts Mountain	Wolf Creek	

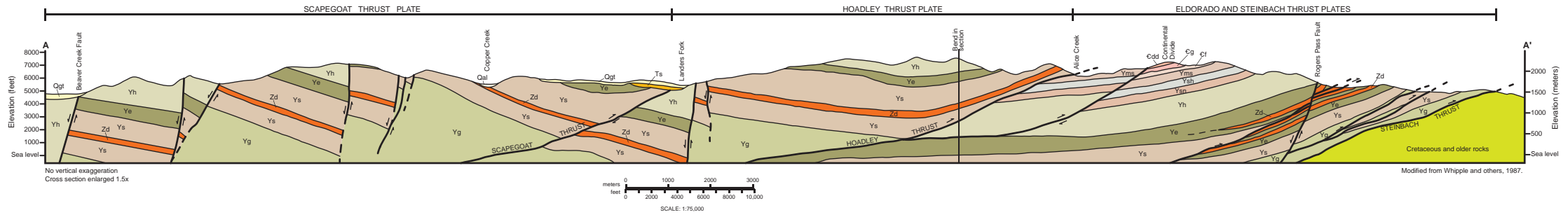
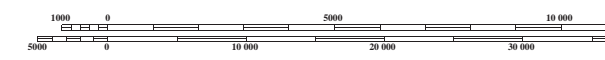
For a more detailed description of the map units, please refer to the text accompanying this map.  
 Approximately located contacts and faults based on aerial photo and satellite image interpretation by compiler.



Map date: 1993  
 Projection: UTM zone 12; 1927 NAD  
 UTM grid declination 1°06' West  
 1984 Magnetic North Declination 16.5° East



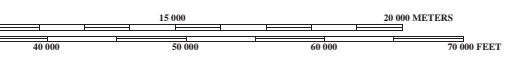
**SCALE 1:100 000**  
 1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON THE GROUND  
 CONTOUR INTERVAL 50 METERS  
 NATIONAL GEODETIC VERTICAL DATUM OF 1929  
 ELEVATIONS SHOWN TO THE NEAREST METER



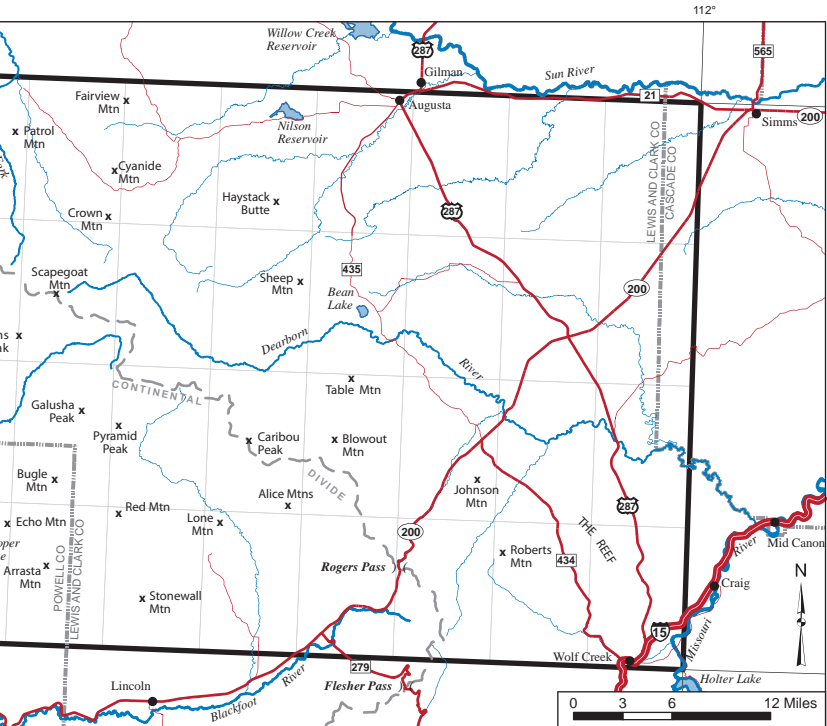
Research supported by the U.S. Geological Survey, National Cooperative Geologic Mapping Program, under USGS award number G10AC00365. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government.

GIS production: Ken Sandau and Paul Thale, MBMG. Map layout: Susan Smith, MBMG. Editing: Susan Barth, MBMG.





Maps may be obtained from  
 Publications Office  
 Montana Bureau of Mines and Geology  
 1300 West Park Street, Butte, Montana 59701-8997  
 Phone: (406) 496-4174 Fax: (406) 496-4451  
 http://www.mbmgs.mt.gov



Geographic features in the Dearborn River 30' x 60' quadrangle.

MAP SYMBOLS

- Contact—Dashed where inferred; dotted where concealed
- Normal Fault—Dashed where inferred; dotted where concealed
- Thrust Fault—Teeth on upper plate; dotted where concealed
- Strike-slip Fault—Arrows indicate relative movement
- Linear Feature—May be a fault
- Anticline axial trace—Showing direction of plunge; dotted where concealed
- Syncline axial trace—Showing direction of plunge; dotted where concealed
- Overturned anticline axial trace—Showing direction of dip of limbs
- Overturned syncline axial trace—Showing direction of dip of limbs
- Tertiary or Cretaceous dike or sill
- Neoproterozoic sill
- Strike and dip of beds—Number indicates dip in degrees
- Strike and dip of overturned beds—Number indicates dip in degrees
- Horizontal beds
- Ash bed

30' x 60' Quadrangle Index

Swan Peak	Choteau	Great Falls N
Seeley Lake	<b>Dearborn River</b>	Great Falls S
Missoula East	Elliston	Canyon Ferry Dam

Lake	Mountain	Mountain	Mountain	Creek	Pass	Mountain	Creek
6	6	11	11	11	11	10, 11	9

1. Dolberg, 1986
2. Henry, 2007
3. Holcombe, 1963
4. Lange, 1963
5. Mudge and Earhart, 1983
6. Mudge and others, 1982
7. Schmidt, 1972a
8. Schmidt, 1972b
9. Schmidt, 1972c
10. Schmidt and Strong, 1972
11. Whipple and others, 1987

Please see text for reference citations.



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