

Montana Bureau of Mines and Geology
Open File No. 423

Preliminary Geologic Map of the
Red Lodge 30' x 60' Quadrangle,
South-Central Montana

David A. Lopez

2001

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

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

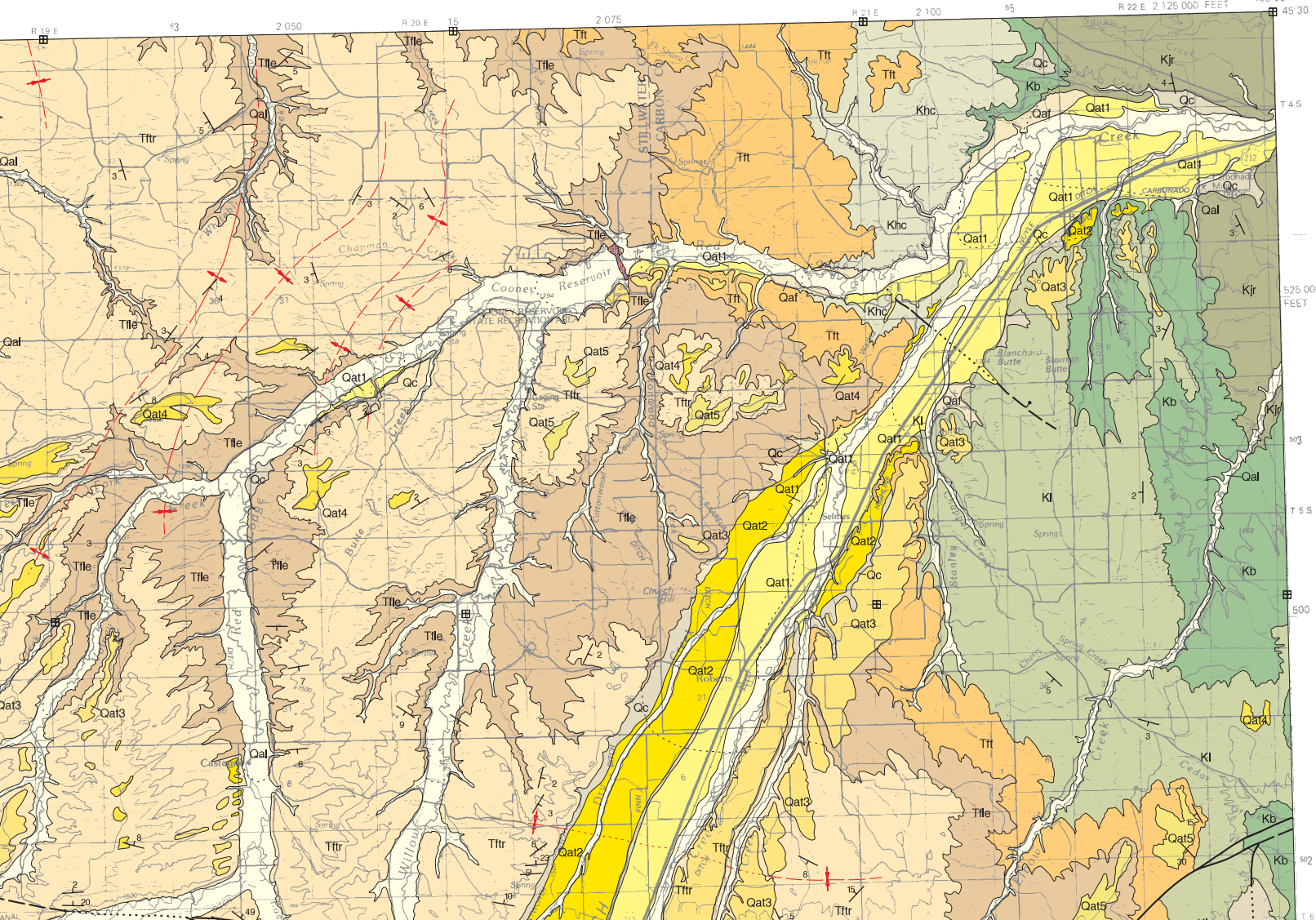
[Digital data link](#)

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 a 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**.
























Phone: 406-496-4167

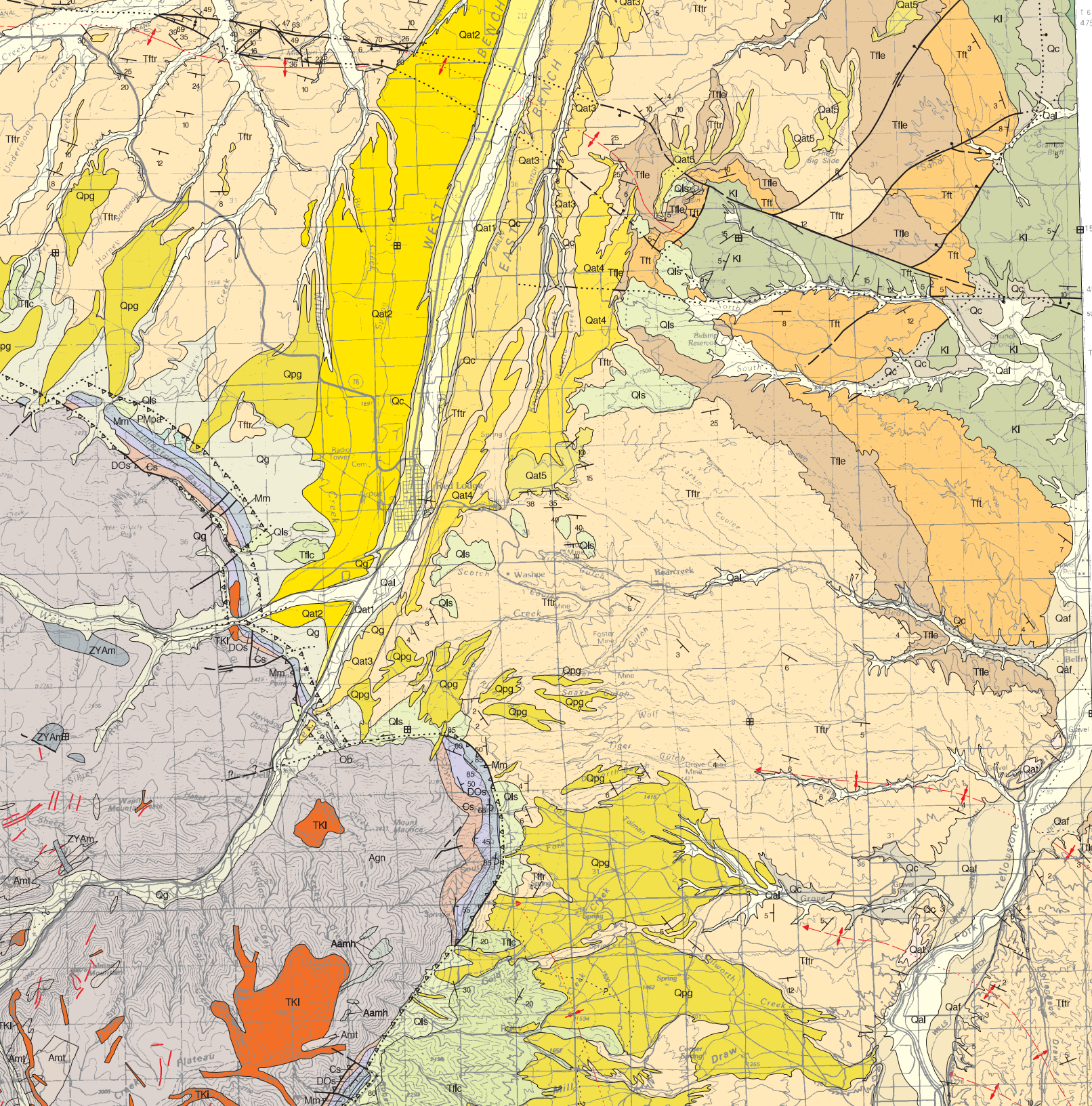
Email: pubsales@mbmg.mtech.edu

30X60 MINUTE SERIES (TOPOGRAPHIC)

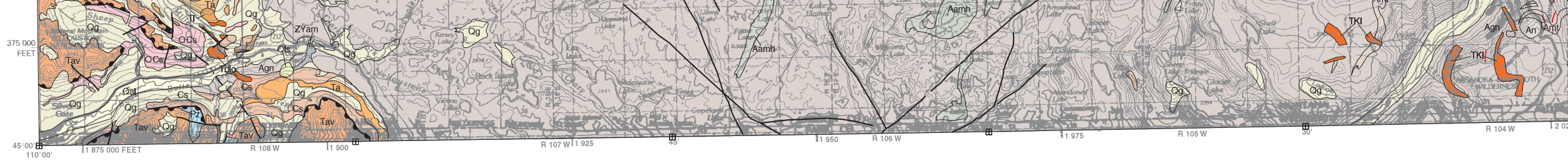


MAP UNITS

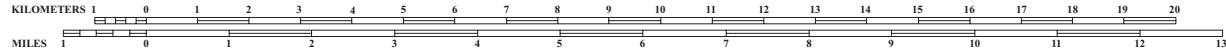
-  Artificial fill - large dams, freeway interchanges
-  Qal Alluvium of modern channels and flood plains
-  Qpg Pediment gravel deposits
-  Qc Colluvium
-  Qaf Alluvial fan deposit
-  Qta Talus deposit
-  Qls Landslide deposit
-  Qg Glacial deposits, undivided
-  Qat Alluvium of alluvial terrace deposit
-  Qat1 Alluvium of youngest alluvial terrace level
-  Qat2 Alluvium of second youngest alluvial terrace level
-  Qat3 Alluvium of third youngest alluvial terrace level
-  Qat4 Alluvium of fourth youngest alluvial terrace level
-  Qat5 Alluvium of fifth youngest alluvial terrace level, oldest
-  Tl Intrusive rocks, undivided
-  Tbl Breccia, intrusive
-  Tdap Dacite porphyry
-  Tdb Diorite
-  Ta Andesite
-  Tav Volcanic rocks, undivided
-  Tlc Linley Conglomerate member of Fort Union Formation
-  Ttr Tongue River Member of Fort Union Formation
-  Tle Lebo Member of Fort Union Formation
- Tlt Tullock Member of Fort Union Formation
- TKl Intrusive rocks, undivided
- Khc Hell Creek Formation



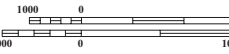
- Helix Creek Formation
- Lance Formation
- Syenite
- Diorite
- Sliderock Mountain fm., informal, Member of Livingston Gp.
- Bearpaw Shale
- Judith River Formation
- Claggett Shale
- Eagle Formation
- Telegraph Creek Formation
- Montana Group, undivided
- Telegraph Creek and Niobrara Formations, undivided
- Frontier Formation
- Mowry Shale
- Thermopolis and Fall River Formations, undivided
- Thermopolis, Fall River, and Kootenai Formations, undivided
- Kootenai Formation
- Kootenai and Morrison Formations, undivided
- Morrison Formation
- Ellis Group, undivided
- Sedimentary rocks, undivided
- Chugwater Formation
- Phosphoria, Quadrant, and Amsden Formations
- Madison Group, undivided
- Sedimentary rocks, undivided
- Sedimentary rocks, undivided
- Bighorn Dolomite
- Sedimentary rocks, undivided
- Paleozoic rocks, undivided
- Mafic intrusive rocks
- Hornblende quartz diorite (Archean)
- Granitic rocks
- Lower mixed and middle zones - Stillwater Complex
- Lower anorthosite zone - Stillwater Complex
- Norite and lower gabbro zones - Stillwater Complex
- Bronzite zone - Stillwater Complex
- Peridotite zone - Stillwater Complex
- Gneissic rocks
- Metanorite and metagabbro
- Ultramafic rock



Base from U.S. Geological Survey
 Red Lodge 30'x60' topographic quadrangle
 Map date: 1991
 Projection: UTM zone 12; 1927 NAD



SCALE 1:100 000
 1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON THE GROUND
 CONTOUR INTERVAL 20 METERS



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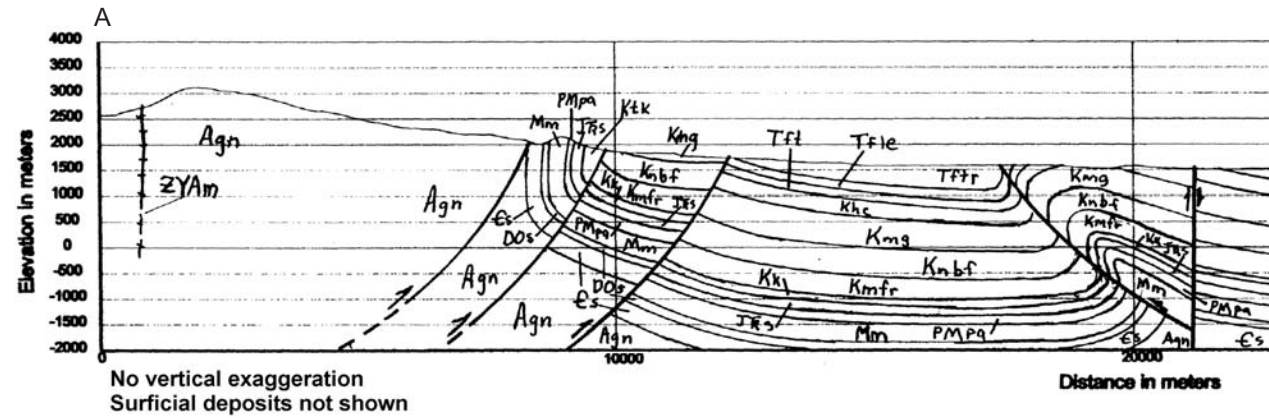
Revised	Date
Map	
Map and text	12/02
Map	10/04

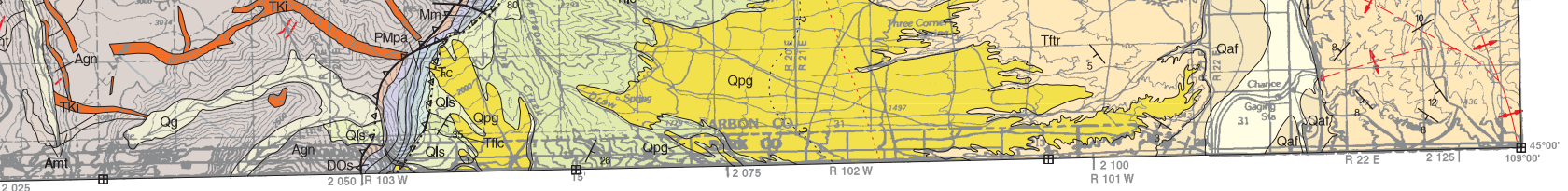
9/01

Partial support has been provided by the STATEMAP component of the N
 Survey under Contract Number 00-HQ-AG-0115. Partial support

GIS production: Ken Sandau and Paul Thale,

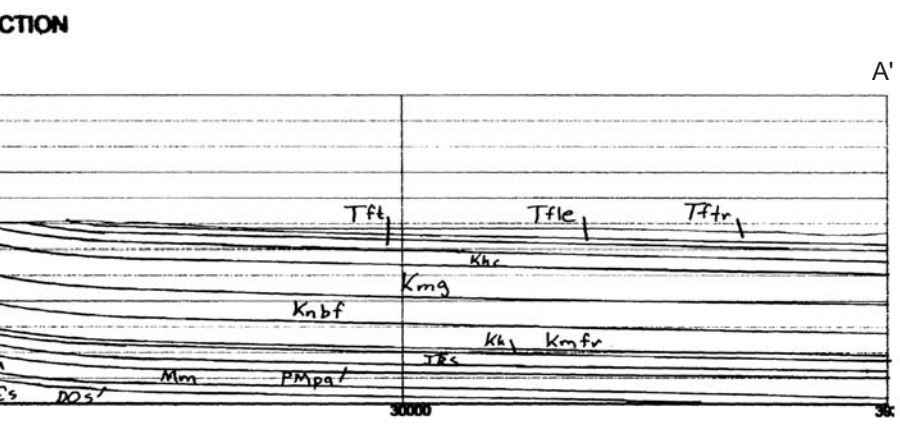
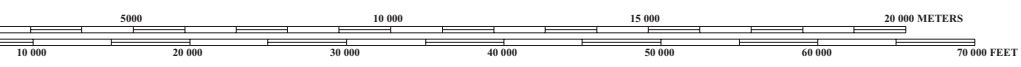
RED LODGE CROSS SECTION





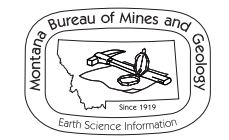
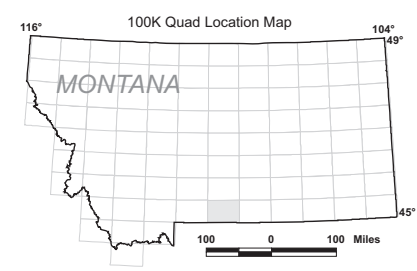
- As Biotite schist
- Aamh Amphibolite and hornblende gneiss
- Ash Schist and Hornfels
- Amt Metamorphic rocks, undivided

RED LODGE, MONTANA-WYOMING
45109-A1-TM-100
1989



Quad index

LIVINGSTON	BIG TIMBER	BILLINGS
GARDINER	RED LODGE	BRIDGER
YELLOW-STONE NAT PARK N	CODY	POWELL



Part of the National Cooperative Geologic Mapping Program of the U.S. Geological Survey. Support also provided by Cabot Oil and Gas Corporation, Denver, CO.

Map layout: Susan Smith, MBMG

Maps may be obtained from
Publications Office
Montana Bureau of Mines and Geology
1300 West Park Street, Butte, Montana 59701-8997
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