

MAP UNITS

- Alluvium-colluvium
- Alluvium of modern channels and floodplains
- Glacial deposits, undivided
- Glacial ice-contact deposit
- Landslide deposit
- Sand and gravel
- Bearpaw Shale
- Judith River Formation
- Chappell Shale

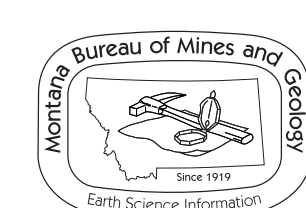
Montana Bureau of Mines and Geology  
Open File No. 389

Geologic and Structure Contour Maps  
of the Malta 30' x 60' Quadrangle  
Northeastern Montana

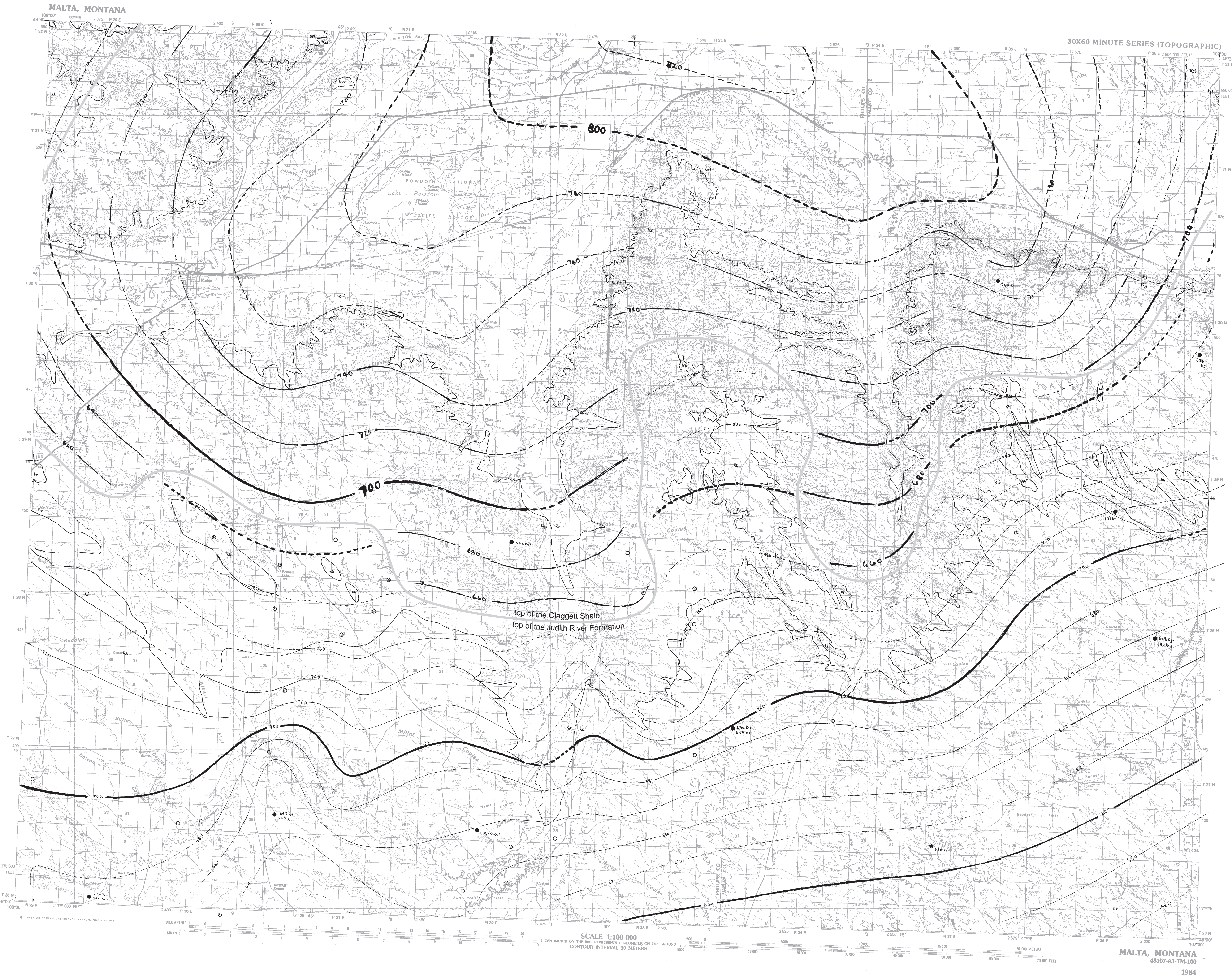
Robert N. Bergantino

1999

Partial support has been provided by the STATEMAP component of the National Cooperative Geologic Mapping Program of the U.S. Geological Survey under Contract Number 98-HQ-AG-2080.



Maps may be obtained from  
Publications Office  
Montana Bureau of Mines and Geology  
1300 West Park Street, Butte, Montana 59701-8997  
Phone: (406) 896-4167 Fax: (406) 896-4451  
<http://www.mbm.mtech.edu>



**LEGEND**

- Bearpaw Shale
- Judith River Formation
- Claggett Shale
- water well, approximate data only, altitudes not given
- control well, Feltis and others 1981

Contour Interval: 20 meters

- contours on top of the Judith River Formation
- contours on top of the Claggett Shale
- - - restored contours

**Contours (in Meters) on the Top of the Judith River Formation and Claggett Shale**

— division between contours of the top of the Judith River Formation, below the line, and top of the Claggett Shale, above the line

**SOURCES**

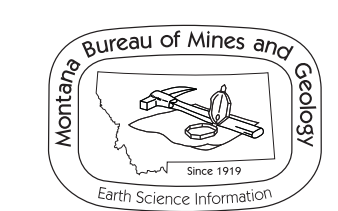
- Feltis, R.D. and others, 1981. Selected geologic data from the northern Great Plains area of Montana: U.S. Geological Survey Open-File Report 81-415.
- Additional contour information from:
- Collier, A.J., 1917. The Bowdoin dome. U.S. Geological Survey Bulletin 661, p. 193-209, plate 9, map scale 1:375,000.
- Erdmann, C.E. and Schwabrow, J.R., 1932. Structural contour map of the central part of the Bowdoin dome. [unpublished map]; U.S. Geological Survey, map scale 1:125,000.
- Osterkamp, W.R., 1968. Occurrence of ground water in the Judith River Formation, north central Montana. U.S. Geological Survey Hydrologic Investigations Atlas HA-306, map scale 1:250,000.

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