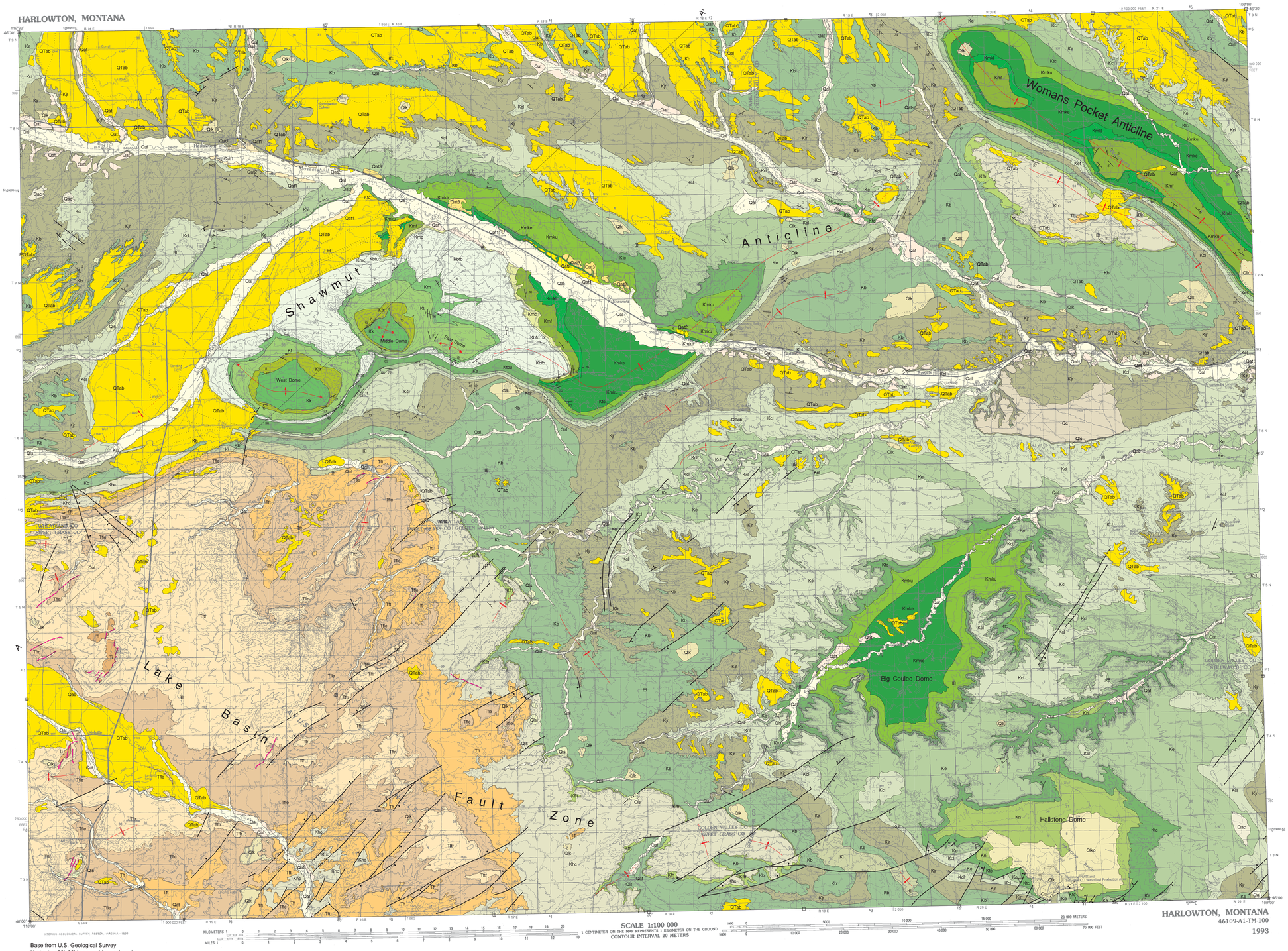
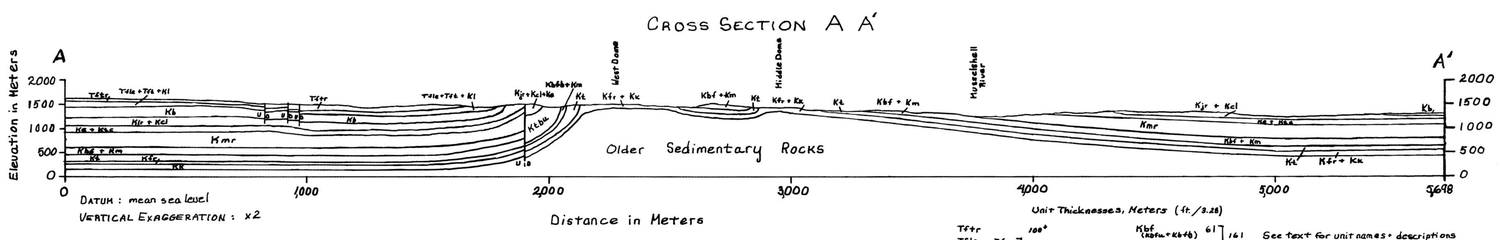


MAP UNITS

Qal	Alluvium of modern channels and flood plains
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
Qls	Landslide deposit
Qac	Alluvium-colluvium
Qc	Colluvium
Qlk	Lake deposits
Qlko	Older lake deposits
QTab	Alluvium of braid plains
Tftr	Tongue River Member of Fort Union Formation
Tfle	Lebo Member of Fort Union Formation
Tft	Tullock Member of Fort Union Formation
Ti	Intrusive rocks, undivided
Kl	Lance Formation
Khc	Hell Creek Formation
Kfh	Fox Hills Formation
Kb	Bearpaw Shale
Kjr	Judith River Formation
Kcl	Claggett Shale
Ke	Eagle Formation
Ktc	Telegraph Creek Formation
Ket	Eagle and Telegraph Creek Frms., undivided
Ktbu	Telegraph Ck. Fm. through upper member of Belle Fourche Fm.
Kn	Niobrara Formation
Kmku	Upper unit, informal, of Kevin Member of Marias River Fm.
Kmke	Eldridge glauconitic beds of Kevin Member of Marias River Fm.
Kmkl	Lower unit, informal, of Kevin Member of Marias River Fm.
Kmf	Ferdig Member of Marias River Formation
Kmc	Cone Member of Marias River Formation
Kbfu	Upper member, informal, of Belle Fourche Formation
Kbfb	Big Elk Sandstone Member of Belle Fourche Shale
Km	Mowry Shale
Kt	Thermopolis Shale
Kfr	Fall River Sandstone
Kk	Kootenai Formation

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

Revised	Date
Map — by David Lopez	9/08

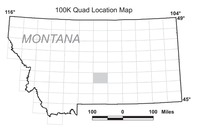


Unit Thicknesses, Meters (ft./3.28)

Tftr	108*		Kbf (Kbfu + Kbfb)	61	161
Tfle	76	137 (61m)	Km	100	
Tft			Ktbu	188	
Kl			Kt	152	
Kb	168*		Kfr	30	121
Kjr	107	168	Kk	91	
Kcl	61				
Ke	116	152			
Ktc	36				
Kmk	132				
Kmf	122	182	Kmr 304		
Kc	50				

See text for unit names + descriptions
Surficial deposits not shown

NOTE: It is possible that the approximately 1,400-m section shown below West and Middle Domes includes rocks older than Cambrian. Because the Shawmut Anticline lies just south of the Montana aulacogen of the Proterozoic Belt Basin as generally mapped (Nelson, 1993), it is possible that these rocks could be either Archean crystalline or Proterozoic sedimentary rocks, or both.



Quad index

WHITE SULPHUR SPRINGS	BIG SNOWY MOUNTAINS	MUSSEL-SHELL
RINGLING	HARLOWTON	ROUNDUP
LIVINGSTON	BIG TIMBER	BILLINGS

Montana Bureau of Mines and Geology
Open File 434

Geologic Map of the Harlowton 30' x 60' Quadrangle, Central Montana

by Edith M. Wilde and Karen W. Porter

2001 (Revised 2008)

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 00HQAG0115.

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