

Montana Bureau of Mines and Geology
Open File No. 453

Geologic Map of the
Valier 30' x 60' Quadrangle,
Northwestern Montana

Richard B. Berg

2002

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

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

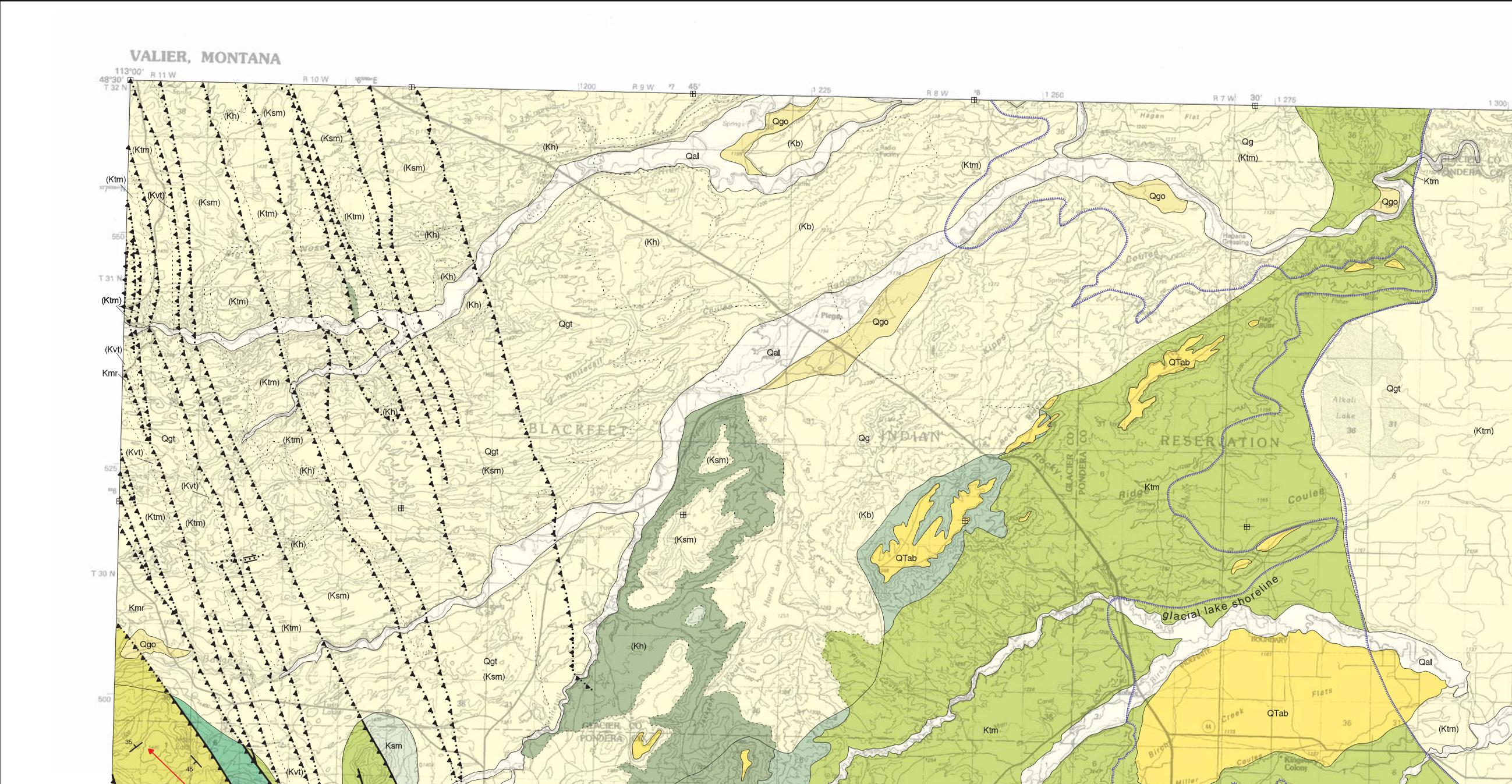
[Digital data link](#)

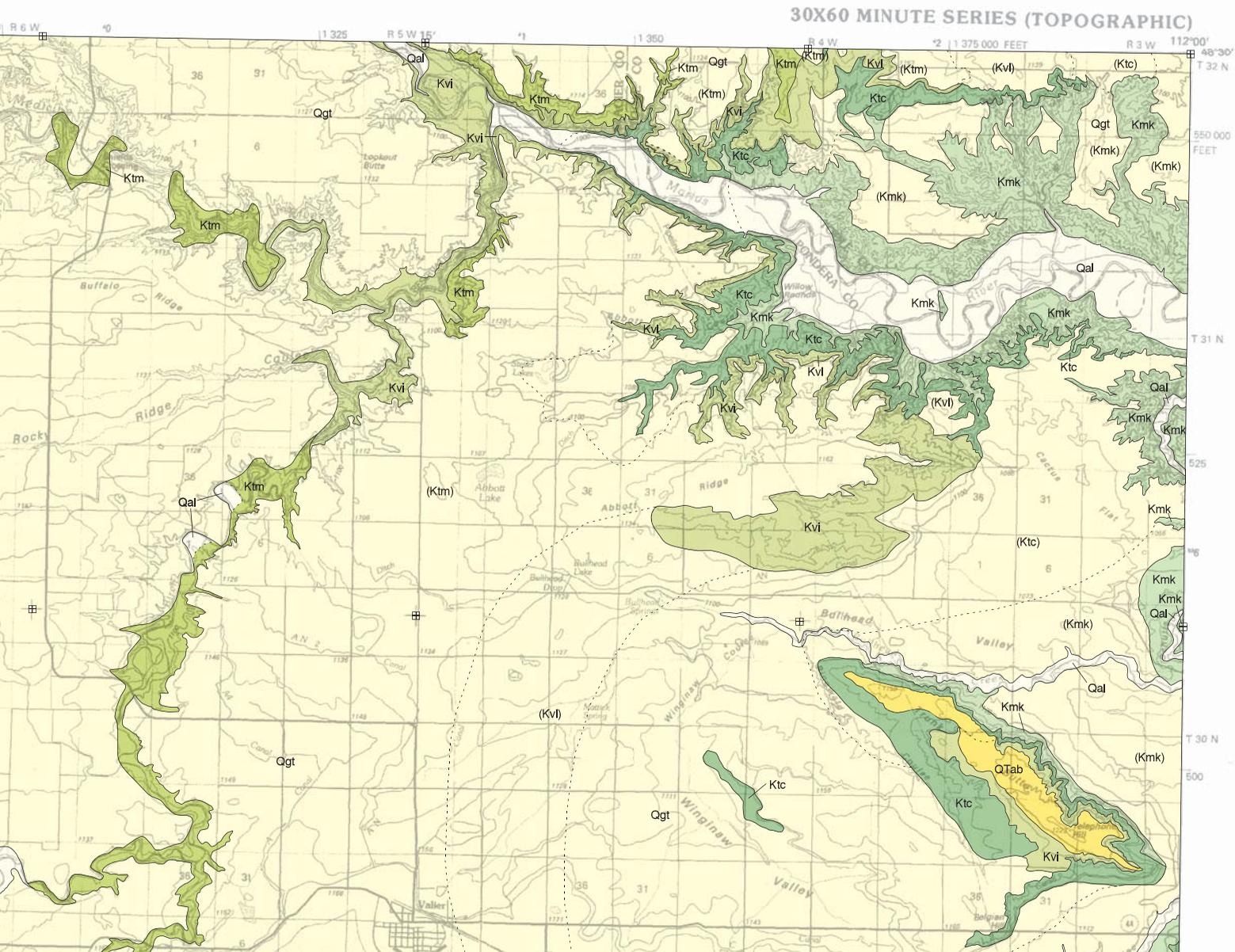
Note— This map was originally published at a scale of 1:100,000 but the page sizes have been modified to fit average printer capabilities (8½ x 14; legal size paper). There is a an eighth inch overlap on these pages. A full sized colored print of this map can be ordered from the **MBMG Publication Sales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

Phone: 406-496-4167

Email: pubsales@mbmg.mtech.edu

Open File MBMG 453, Plate 1 of 1
Geologic Map, Valier 30'x60' Quadrangle

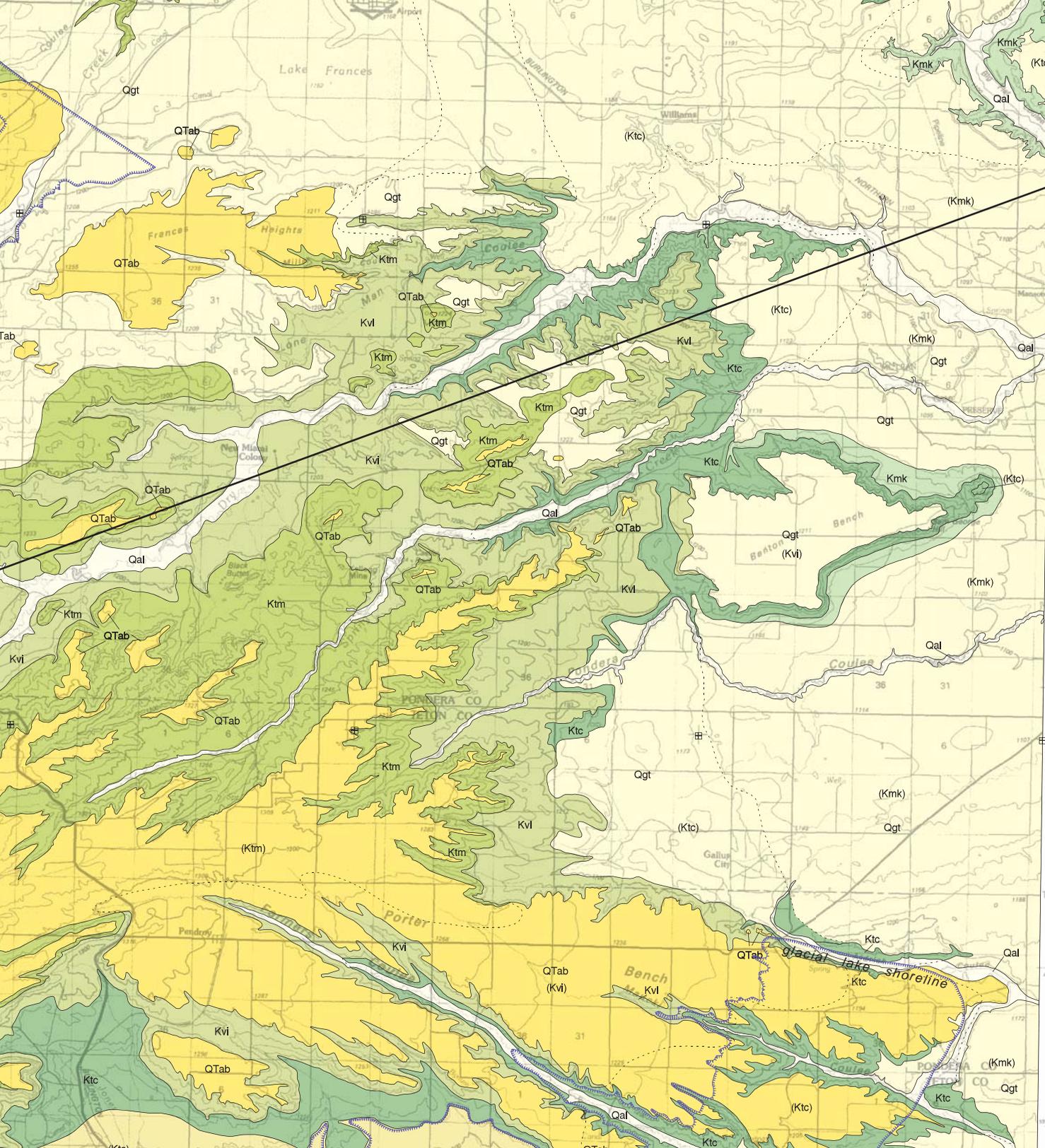




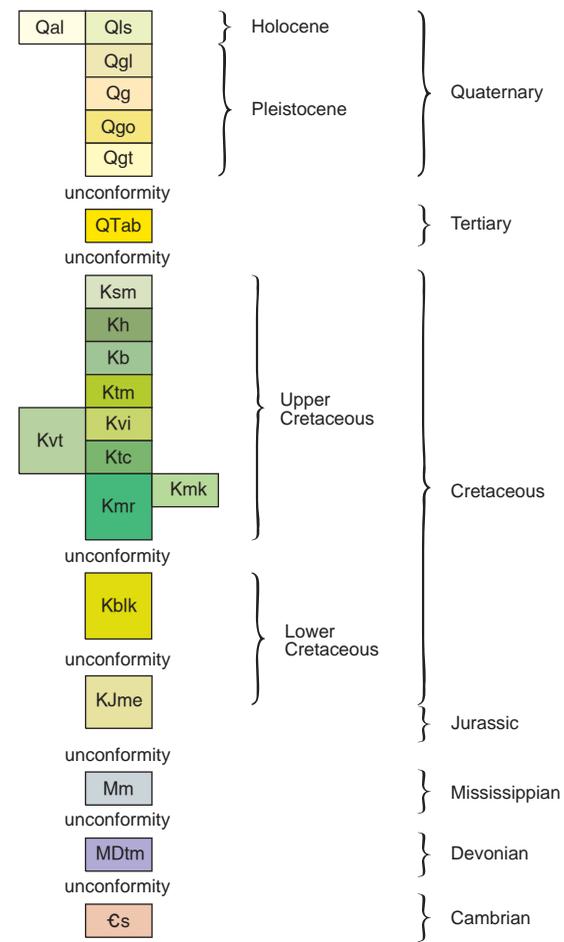
MAP UNITS

Qal	Alluvium of modern channels and flood plains
Qls	Landslide deposit
Qgl	Glacial lake deposit
Qg	Glacial deposit
Qgo	Glacial outwash deposit
Qgt	Glacial till
QTab	Alluvium of braid plains
Ksm	St. Mary River Formation
Kh	Horsethief Formation
Kb	Bearpaw Shale
Ktm	Two Medicine Formation
Kvt	Virgelle Formation and Telegraph Creek Formation, undivided
Kvi	Virgelle Formation
Ktc	Telegraph Creek Formation
Kmr	Marias River Formation
Kmk	Kevin Member of Marias River Formation
Kblk	Lower Cretaceous sedimentary rocks
KJme	Sedimentary rocks, undivided
Mm	Madison Group, undivided
MDtm	Sedimentary rocks, undivided
Cs	Sedimentary rocks, undivided

CORRELATION of Units

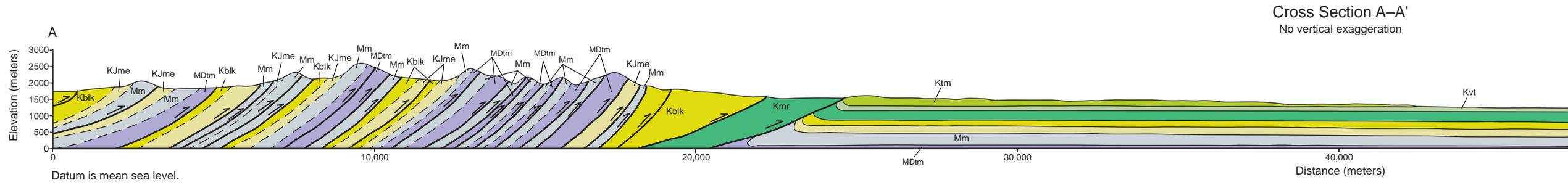
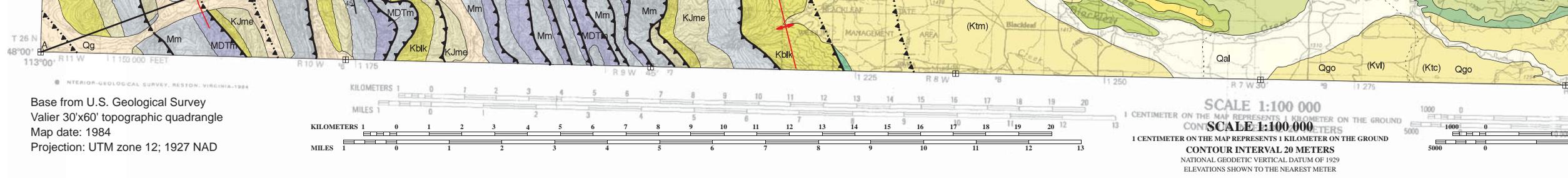


CORRELATION OF UNITS



glacial lake shoreline

For a more detailed description of the map units and symbols, please refer to the text accompanying this map.



For clarity, surficial deposits are not shown.
Dashed formational contacts at southwestern end of cross section indicate the uncertainty of contacts in this area of intense deformation in the Montana Disturbed Belt.

Montana Bureau of Mines and Geology
Open File No. 453

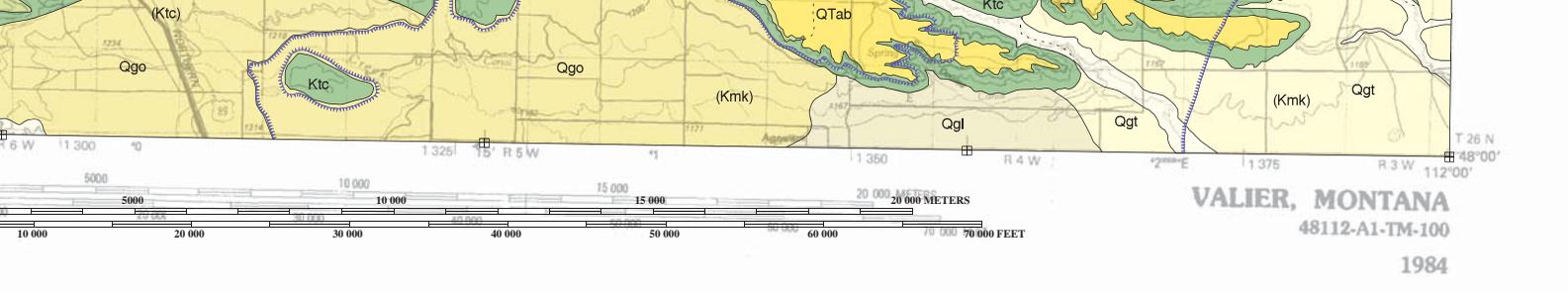
Geologic Map of the Valier 30' x 60' Quadrangle Northwestern Montana

Compiled and mapped by
Richard B. Berg

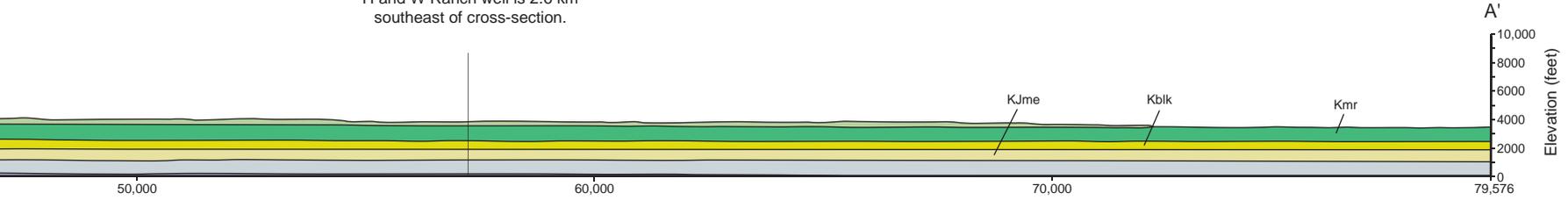
2002 (Revised in 2011)

Revised	Date
Map and text	2011

Partial support has been provided by the STATEMENT
Mapping Program of the U.S. Geological Survey and
GIS production: Ken Sandau, John Dillon and Paul



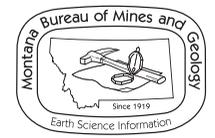
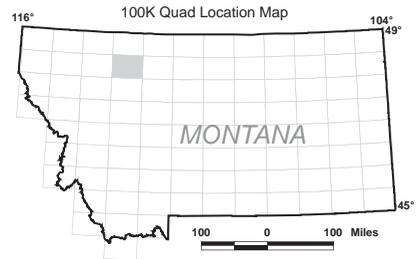
H and W Ranch well is 2.6 km southeast of cross-section.



Thicknesses used in cross section are based on exposures, well log for H and W Ranch well, and for MDtm, cross section C-C' of Mudge and Earhart, 1983.

Quad index

SAIN MARY	CUT BANK	SWEET GRASS HILLS
HUNGRY HORSE RESERVOIR	VALIER	CONRAD
SWAN PEAK	CHOTEAU	GREAT FALLS NORTH



Maps may be obtained from
 Publications Office
 Montana Bureau of Mines and Geology
 1300 West Park Street, Butte, Montana 59701-8997
 Phone: (406) 496-4167 Fax: (406) 496-4451
<http://www.mbm.mtech.edu>

AP component of the National Cooperative Geologic
 under Contract Number 01-HQ-AG-0096.

l Thale, MBMG. Map layout: Susan Smith, MBMG.