U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared in cooperation with the
MONTANA BUREAU OF MINES AND GEOLOGY

OPEN-FILE REPORT 88-624

Base from U. S. Geological Survey

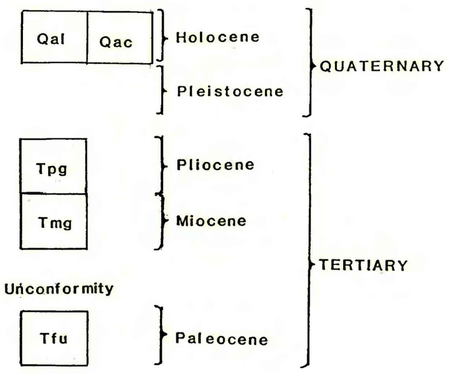
Geology mapped in 1980 and 1981

SCALE 1:24000

1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

CONTOUR INTERVAL 20 FEET

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

Qal **Alluvium (Holocene)**--Light-brown and gray, well-stratified and well-sorted clay, silt, sand, and gravel. As much as 4 m (13 ft) thick under the flood plain of Lisk Creek to less than 2 m (6 ft) under flood plains of tributaries. Unit is limited to areas characterized by meander or braided patterns on aerial photographs. Subject to occasional flooding

Qac **Alluvium and colluvium (Holocene)**--Light-brown and gray, poorly sorted and well-stratified clay, silt, sand, and gravel deposited by slope wash and gravity. As much as 10 m (33 ft) thick, generally less than 5 m (16 ft) . The color and texture of the colluvium reflect the parent material upslope. May interfinger with alluvium; includes alluvial fans and much windblown clay, silt, and sand. Soil profiles range from well-developed to poorly developed

Tpg **Sand and gravel, undivided (Pliocene)**--Light-brown to light-gray, well-stratified and well-sorted sand and gravel. Unit generally limited to altitudes between 929 m (3,030 ft) and 869 m (2,850 ft). May contain some Pleistocene sand and gravel. Thickness is as much as 10 m (33 ft), but generally less than 3 m (10 ft)

Tmg **Sand and gravel, undivided (Miocene)**--Light-brown to light-gray, well-stratified to poorly stratified, and well-sorted to poorly sorted sand and gravel. Unit generally limited to altitudes more than 965 m (3,100 ft). May include some Pliocene sand and gravel. Thickness is as much as 10 m (33 ft), but generally less than 6 m (20 ft)

Tfu **Tongue River Member (Collier and Knechtel, 1939) of Fort Union Formation (Paleocene)**--Yellowish- and light-brown shale and sandstone containing numerous lignite beds. Estimated thickness is more than 243 m (800 ft)

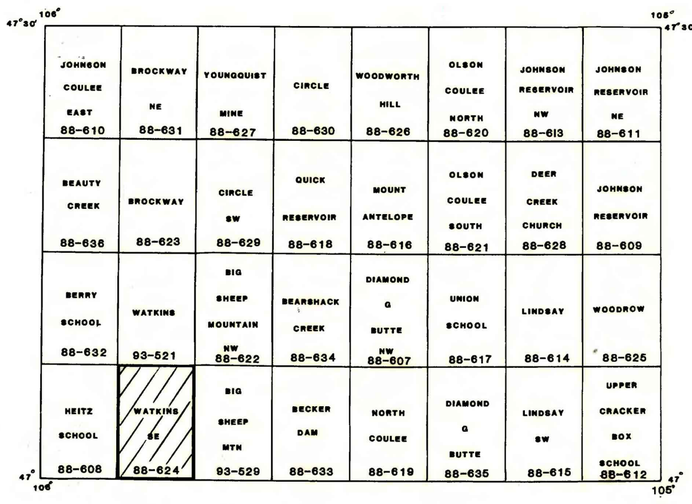
w **Water**

Contact--Dashed where approximately located

Gravel pit

REFERENCE

Collier, A.J., and Knechtel, M.N., 1939, The coal resources of McCone County, Montana: U.S. Geological Survey Bulletin 905, 80 p.



INDEX TO QUADRANGLES IN THE CIRCLE 30' x 60' QUADRANGLE. MAPPED QUADRANGLE SHOWN BY STRIPES; NUMBERS ARE OPEN-FILE NUMBERS

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards or with the North American stratigraphic code. Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

GEOLOGIC MAP OF THE WATKINS SE QUADRANGLE, MCCONE AND PRAIRIE COUNTIES, MONTANA

By

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1994