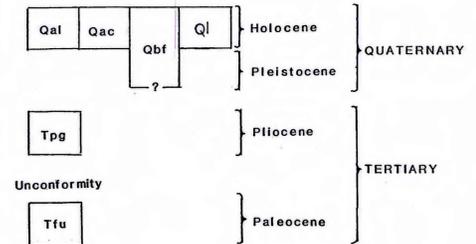


CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

- Qal Alluvium (Holocene)**—Light-brown and gray, well-stratified and well-sorted clay, silt, sand, and gravel. Unit limited to areas characterized by meander or braided patterns on aerial photographs. Surfaces of unit may be subject to occasional flooding. Thickness ranges from as much as 6 m (20 ft) under the flood plain of Redwater River to less than 3 m (10 ft) under flood plains of other streams
- Qac Alluvium and colluvium (Holocene)**—Light-brown and gray, poorly sorted and poorly stratified clay, silt, sand, and gravel deposited by slope wash and gravity processes. The color and texture of the colluvium reflect the parent material upslope. May interfinger with alluvium; includes small alluvial fans and much windblown clay, silt, and sand. Soil profiles range from well-developed to poorly developed. As much as 10 m (33 ft) thick, but generally less than 5 m (16 ft)
- Ql Lacustrine deposits (Holocene)**—Gray to dark-gray deposits of clay and silt in closed depressions. May contain windblown clay, silt, and sand. Surface of unit subject to occasional flooding. As much as 2 m (6 ft) thick
- Qbf Baked and fused bedrock (clinker) (Holocene and Pleistocene)**—Red to orange baked shale, sandstone, and siltstone of the Fort Union Formation that were heat-metamorphosed by combustion of lignite. Hard, dense, metamorphosed sediments are known as porcellanite; locally, sediments fused and melted to form black, vesicular, glassy, scoriaceous rock called buchite, which forms linings of chimneys and veins in porcellanite. As much as 10 m (33 ft) thick, but generally less than 5 m (16 ft)
- Tpg Sand and gravel, undivided (Pliocene)**—Light-brown to light-gray, well-stratified and well-sorted to poorly sorted sand and gravel. May contain some Pleistocene sand and gravel. Unit generally limited to altitudes less than 955 m (3,100 ft) but more than 767 m (2,520 ft). Thickness as much as 10 m (33 ft), but generally less than 3 m (10 ft)
- Tfu Tongue River Member (Collier and Knechtel, 1939) of Fort Union Formation (Paleocene)**—Yellowish-or light-brown shale and sandstone containing numerous lignite beds. Thickness estimated to be 122 m (400 ft)

- w Water**
- Contact**—Dashed where approximately located
- Gravel pit**
- Crest of yardang**—Long narrow ridge resulting from wind erosion

REFERENCE

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

JOHNSON COULEE EAST 88-810	BROCKWAY NE 88-831	YOUNGQUIST MINE 88-827	CIRCLE 88-830	WOODWORTH HILL 88-828	OLEON COULEE NORTH 88-820	JOHNSON RESERVOIR NW 88-813	JOHNSON RESERVOIR NE 88-811
BEAUTY CREEK 88-836	BROCKWAY SW 88-823	CIRCLE SW 88-829	QUICK RESERVOIR 88-818	MOUNT ANTLOPE 88-810	OLEON COULEE SOUTH 88-821	DEER CREEK 88-825	JOHNSON RESERVOIR 88-808
BERRY SCHOOL 88-832	WATKINS 88-821	BIG SHEEP MOUNTAIN NW 88-822	BEARNACK CREEK 88-834	DIAMOND SUTTE 88-807	UNION SCHOOL 88-817	LINDSAY 88-814	WOODROW 88-826
HEITZ SCHOOL 88-808	WATKINS SE 88-824	BIG SHEEP MTH 88-829	BECKER DAM 88-833	NORTH COULEE 88-819	DIAMOND SUTTE 88-835	LINDSAY SW 88-816	UPPER CRACKER BOX 88-812

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

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

By
R.B. Colton, J.P. McGraw, and D.K. Bozeman

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