



- DESCRIPTION OF MAP UNITS**
- Qal Alluvium (Holocene)**—Light-brown and gray, well-stratified and well-sorted clay, silt, sand, and gravel. As much as 6 m (20 ft) thick under the flood plain of Redwater River to less than 3 m (10 ft) under flood plains of tributaries. Unit limited to areas characterized by meander or braided patterns on aerial photographs. Surface of unit may be subject to occasional flooding
 - Qac Alluvium and colluvium (Holocene)**—Light-brown and gray, poorly sorted and poorly stratified clay, silt, sand, and gravel deposited by gravity and slope wash. As much as 5 m (16 ft) thick, but generally less than 3 m (10 ft). 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
 - Qbf Baked and fused bedrock (clinker) (Holocene to Pleistocene)**—Red to orange baked shale, sandstone, and siltstone of the Fort Union Formation that was 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)
 - Qg Sand and gravel, undivided (Holocene to Pleistocene)**—Light-brown to light-gray, well-stratified to poorly stratified, and well-sorted to poorly sorted. Thickness as much as 5 m (16 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. Estimated thickness more than 200 m (656 ft)

- w Water**
- Contact—Dashed where approximately located**
- ⌘ Quarry—In baked and fused bedrock (clinker)**

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 88-610	BROCKWAY NE 88-631	YOUNGQUIST MINE 88-627	CIRCLE 88-630	WOODWORTH HILL 88-626	OLSON COULEE NORTH 88-620	JOHNSON RESERVOIR NW 88-613	JOHNSON RESERVOIR NE 88-611
BEAUTY CREEK 88-638	BROCKWAY SW 88-623	CIRCLE RESERVOIR 88-629	QUICK 88-618	MOUNT ANTELOPE 88-616	OLSON COULEE SOUTH 88-621	DEER CREEK CHURCH 88-628	JOHNSON RESERVOIR 88-609
STRIPES	WATKINS 93-521	BIG SHEEP MOUNTAIN NW 88-622	BEARHACK CREEK 88-634	DIAMOND BUTTE NW 88-607	UNION SCHOOL 88-617	LINDSAY 88-614	WOODROW 88-626
HEITZ SCHOOL 88-608	WATKINS SE 88-624	BIG SHEEP MTN 93-520	BECKER DAM 88-633	NORTH COULEE 88-619	DIAMOND BUTTE 88-635	LINDSAY SW 88-616	UPPER CRACKER BOX SCHOOL 88-612

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

**GEOLOGIC MAP OF THE BERRY SCHOOL QUADRANGLE,
McCONE AND PRAIRIE COUNTIES, MONTANA**

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