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

Prepared in cooperation with the
MONTANA BUREAU OF MINES AND GEOLOGY

OPEN-FILE REPORT 88-612

105 07 30

47 07 30

Base from U. S. Geological Survey

SCALE 1:24 000

1 ½ 0 1 MILE

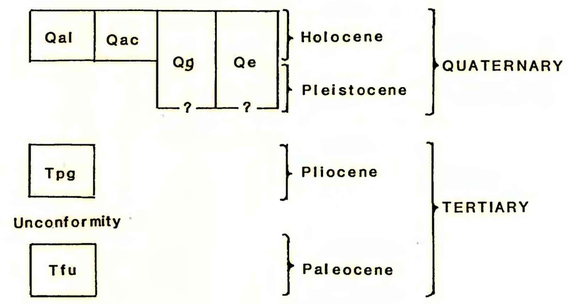
1 .5 0 1 KILOMETER

Geology mapped in 1980 and 1981

47 00 00

105 00 00

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 6 m (20 ft) thick under the flood plain of Clear Creek to less than a few meters 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 well-stratified clay, silt, sand, and gravel deposited by slope wash and gravity processes. As much as 10 m (33 ft) thick, but generally less than 5 m (16 ft). The color and texture of the colluvium reflect the parent material upslope. May interfinger with alluvium; includes local alluvial fans and much windblown clay, silt, and sand. Soil profiles from well-developed to poorly developed

Qe **Eolium (Holocene to Pleistocene)**--Light- to moderate-brown windblown sand and silt deposits. As much as 5 m (16 ft) thick, but generally less than 2 m (6 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 sand and gravel. Thickness as much as 5 m (16 ft), but generally less than 3 m (10 ft)

Tpg **Sand and gravel, undivided (Pliocene)**--Light-brown to light-gray, well-stratified and well-sorted sand and gravel. Thickness locally as much as 24 m (80 ft), but generally less than 13 m (43 ft). Unit generally limited to altitudes above 860 m (2,820 ft). May contain some Pleistocene sand and gravel

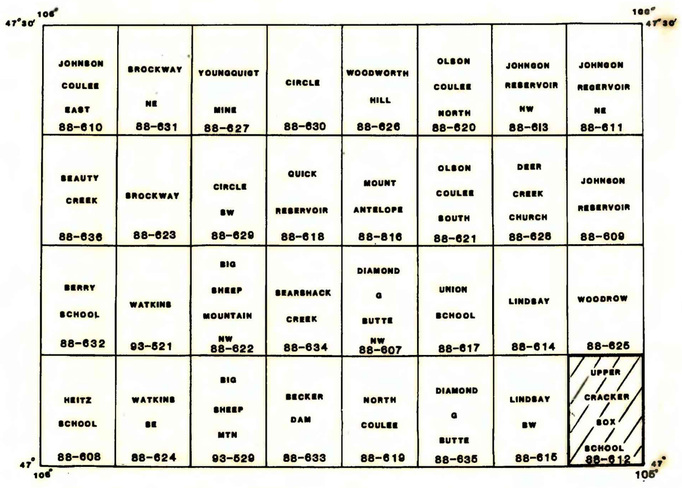
Tfu **Tongue River Member (Collier and Knechtel, 1939) of Fort Union Formation (Paleocene)**--Yellowish- and light-brown shale and sandstone containing numerous lignite beds. Estimated thickness in quadrangle is more than 122 m (400 ft)

w **Water**

—— **Contact**--Dashed where approximately located

REFERENCE

Hance, J.H., 1910, The Glendive lignite field, Dawson County, Montana: U.S. Geological Survey Bulletin 471-D, p. 271-283.



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

GEOLOGIC MAP OF THE UPPER CRACKER BOX SCHOOL QUADRANGLE, DAWSON COUNTY, MONTANA

By

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

1994