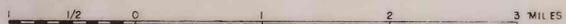


- Qal**
Alluvium
Postglacial sand, silt, and clay constituting the floor of the river valleys and the larger tributaries; also includes larger alluvial and colluvial fans.
 - Ql**
Landslides
Areas of low sub-parallel ridges along walls of the Souris River valley. Commonly display undrained depressions on the upslope sides. Material constituting the landslides consists predominantly of till but includes numerous beds of silt, sand, or fine-grained gravel intercalated in the till and tilted at angles up to vertical.
 - Qt**
Outwash terrace deposits
Remnants of glacial outwash fill left as terraces along walls of river valleys. Deposits consist of moderately to poorly sorted sand, gravel, and boulders as much as 4 feet long; boulders especially abundant on the surface. In a few places deposits are as much as 20 feet thick but generally thinner and in places underlain by till at shallow depth. Distinct terrace levels are shown by scarp symbol.
 - Qc**
Outwash channel deposits
Deposits in channels formed by glacial meltwater. Consist chiefly of silt and clay; minor amounts of sand. In most places deposits range in thickness from a few feet to less than a foot. Includes some Recent alluvium deposited by small intermittent streams and some slope wash.
 - Qgf**
Glaciofluvial deposits, undifferentiated as to origin
Consists of glacial gravel, sand, and silt, generally poorly sorted and intermixed with lesser amounts of till. Deposits constitute low mounds and ridges on the upland surface and also lower portion of some of the spurs along valley walls between tributaries of the rivers.
 - Qke**
Kames and eskers, undifferentiated
Mounds and sinuous ridges, generally less than 15 feet high, consisting chiefly of poorly sorted gravel, sand, and silt with minor amounts of till.
 - Qgm**
Ground moraine
Chiefly a compact, highly impervious, stony, clay-rich till, locally mantled by sand, silt, or clay deposited by glacial meltwater or wind action. Also includes small deposits of alluvium and colluvium deposited in numerous kettles and other undrained depressions.
 - Qm**
Moraine on Coteau du Missouri
Topographically high hummocky area characterized by numerous knobs, kettles, and other undrained depressions and consisting of a stony, clay-rich till similar in composition to ground moraine.
 - Tfu**
Fort Union formation
Tongue River member
Continental beds of poorly to moderately consolidated sandstone, sand, siltstone, shaly clay, and lignite. Weathered exposures are gray to tan. Solid pattern shows individual exposure or area of closely spaced outcrops.
-
- Contact, sharply defined
 - - - Contact, approximate
 - Contact, indefinite or gradational
 - Coal bed covered, location approximate
 - × Inactive lignite mine, slope or tunnel
 - × Sand and gravel pit
 - Scarp (separates two terrace levels)
 - Poorly drained area, intermittently marshy
 - Lake
 - Intermittent stream
 - Spring
 - Dam
 - Section line
 - County line
 - U. S. highway
 - Highway, secondary (circle denotes numbered state highway)
 - Road secondary
 - BM 1907 Bench mark with altitude, location approximate
 - Farm buildings
 - School
 - Church
 - Trend of former glacial outwash channel where outwash has been removed and channel outline modified by postglacial erosion.
-
- Notes: Culture interpreted from aerial photographs and planimetric sheets.

PRELIMINARY

GEOLOGIC MAP OF THE CARPIO QUADRANGLE, NORTH DAKOTA

SCALE 1/48000



Geology mapped in 1947 by Richard W. Lerrke

U. S. Geological Survey

OPEN FILE REPORT

This map is preliminary and has not been edited or reviewed for conformity with Geological Survey standards or nomenclature.

Three-fourths of base compiled from Topographic Division Planimetric 7 1/2' quadrangles, 1947 Southwestern quarter compiled from township plots, 1893.



QUATERNARY

TERTIARY