

LEGEND
Coloured legend blocks indicate map units that appear on this map.

QUATERNARY - SURFICIAL DEPOSITS

NONGLACIAL ENVIRONMENT

ORGANIC DEPOSITS: peat, 1 to 3 m thick; commonly underlain by fine glacial till deposits; mantles extensive areas on the Pelicous terraces or occurs in more confined low-lying poorly drained parts of the divide.

7b Fine peat, wet, single and moss peat; includes silt, clay and siltstone lenses; occurs as flat grassy surfaces with few trees, and commonly underlain by fine glacial till deposits; mantles extensive areas on the Pelicous terraces or occurs in more confined low-lying poorly drained parts of the divide.

7a Big peat, moss and silt peat; occurs as raised irregular surfaces with an open to closed tree cover; derived from siltstone forest vegetation; thermokarst depressions and ponds, wind-eroded pillars and truncated peat plateaus are common; contains some areas of collapse scar faces.

6 ALLUVIAL DEPOSITS: silt, sand, and gravel, up to 30 m thick; deposited by running water in both modern and old streams; occurs mostly in the drainage of the Saskatchewan River, its floodplain, terraces, point bars, meander scars, and deltas.

PROGLACIAL ENVIRONMENT

GLACIAL LAKE DEPOSITS: massive to stratified clay, silt, sand, and gravel; thickness ranges from a 5th terrace to low of modern; deposited in glacial Lake Agassiz and covered in the basin in large part by glacial outwash.

5c Nearshore and littoral sediments: sand, gravel, and rock rubble; moderately sorted and commonly horizontally bedded; occurring either as a terrace or sand (commonly less than 2 m thick) grading upward into fine sandstone or as isolated or series of ridges, 1 to 3 m in height (includes barrows, bars, and walls); commonly well developed on proglacial deposits; rights of ridge beach deposits occur on carbonate bedrock in the SE part of the study area.

5b Offshore sediments: clay, silt and silt sand; generally laminated, grayish and weathery calcareous; or massive and brownish near surface; 2 to 18 m thick, up to 45 m thick in the 4th stage glaciolacustrine plain; may contain lenticular sandstone, siltstone, and clayey siltstone deposited at the ice margin or under a floating ice shelf; forms flat plateaus in low relief areas, commonly marked with peat; surfaces locally incised by isberg scars.

5a Offshore sediment veneer: clay, silt and silt sand; forms a discontinuous blanket, less than 2 m thick; deposits mantling underlying glacial and bedrock topography; also includes small-scale glaciolacustrine sediments deposited in deep water beyond or near the ice margin.

GLACIAL ENVIRONMENT

GLACIOLUVIAL DEPOSITS: water sorted, stratified sand, gravel, and cobble; up to 25 m thick; deposited in, around, or near a glacier, largely as a result of meltwater flow.

4 Outwash sediments: sand and gravel, well rounded and commonly stratified; 2 to 20 m thick; sorted by braided channels and fan-like depressions; occur either as valley flats and subterminal outwash fans, within or adjacent to meltwater channels or as subterminal fans formed in glacial Lake Agassiz; surfaces are commonly terraced and hummocky.

3 Ice contact stratified drift: interbedded sand, gravel, cobble, and siltstone; thickness ranges from 2 to 10 m; forming ridges, barrows, ice-wash ridges, the contact dikes, and meanderbank, and interlobate moraines.

2a, 2b Till blanket: forms a continuous cover, 1 to several metres in thickness, mantling underlying bedrock topography; surface commonly flat and may be covered by a discontinuous blanket of Lake Agassiz clay; 2a - calcareous silt; 2b - calcareous silt.

1a, 1b Till veneer: forms a discontinuous cover, ranging from 0 to 1 m in thickness; commonly occurs on the lee side of bedrock highs; interpreted with isolated areas of higher silt in bedrock depressions; surface morphology reflects underlying bedrock structure; 1a - non-calcareous silt; 1b - calcareous silt.

PRE-QUATERNARY - BEDROCK

R2 Paleozoic sedimentary carbonate rocks: primarily dolomite and dolostone; limestone, and some sandstones; surfaces are commonly eroded and flat; outcrops, but generally polished and striated surfaces are preserved locally; occur as faulting outcrops with patches of till drift.

R1 Precambrian metamorphic and metasedimentary rocks and associated intrusive bodies: metabasites, metachert, granite and granitic dykes, and some gabbroic intrusions; generally occur outcrops from abundant rocks; outcrops and elevated or ground surfaces; gently rolling topography with thin patchy till drift cover.

SYMBOLS

- Geological boundary
- Small bedrock outcrop
- Rock escarpment
- Strike (no flow direction known, unknown; poorly defined)
- Crossed strike (f = offset)
- Streamlined landform
- Crag and tail landform
- Rockes outcrops
- Isberg scar
- Moraine ridge (proglacial, end or interlobate)
- Eskar (direction of flow known, unknown)
- Abandoned river channel (large, small)
- Kettle hole (small, large)
- Beach ridge, barrow, spit, or bar
- Thermokarst depressions (small, large)
- Palms and peat plateaus
- Gravel pit (active, abandoned)
- Quarry

REFERENCES

Brown, J., Wilson, D., and The NATMAP Digital Working Group
1992: Preliminary release of selected geoscientific data for the NATMAP Shield Margin Project, File File area, Manitoba and Saskatchewan; GSC Open File 2743, CD-ROM Release, November 1992.

Klassen, R.W.
1980: Surficial geology, Wekusko Lake, Manitoba; Geological Survey of Canada, Map 6-1979, 1:500 000 scale.

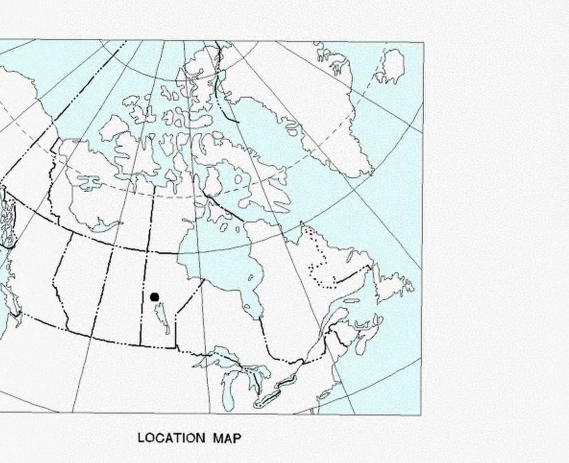
1986: Surficial geology of North-Central Manitoba; Geological Survey of Canada, Memoir 412, 57 p.

Manitoba Energy and Mines
1983: Bedrock Geology Compilation Map Series, Preliminary Edition, Wekusko Lake, NTS 554, 1:500 000.

McMurtrei, I.
1962: Surficial geology of the Tallon Lake area, Manitoba (NTS 6332 to J6); Geological Survey of Canada, Open File 2744, 1 sheet, scale 1:100 000.

1984: Ice flow events in the Comond Lake - Wekusko Lake area, Northern Manitoba; in Current Research, Part C, Geological Survey of Canada, Paper 1984-C, p. 175-182.

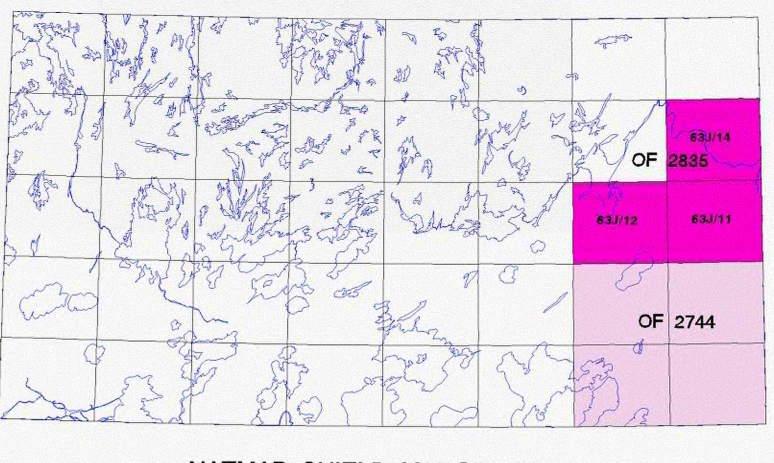
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Geology by J. McMartin, 1992-1993
Digital cartography by Information and Scientific Services Section (Terrestrial Sciences Division) and M. Siquin, Geological Survey of Canada
Coordinated through the auspices of the NATMAP Shield Margin Project by J. McMartin
Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Open File 2835
SURFICIAL GEOLOGY OF THE MITISHTO RIVER AREA
MANITOBA
Scale 1:100 000 - Echelle 1/100 000
Kilometres 0 1 2 3 4 5
Utmarsk Transverse Mercator Projection
Proyektia transverse utmarsk as Merator
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Mean magnetic declination 1984, 91° 1' E, decreasing 0.1° annually.
Readings very high 7° 57' E in the SE corner to 9° 17' E in the NW corner of the map.
Digital base map from Survey, Mapping and Records, Serving published at 1:50 000 scale. Generated and assembled by the Geological Survey of Canada.
Copies of the topographical outlines covering this map area may be obtained from the Canada Map Office, Department of Natural Resources Canada, Ottawa, Ontario, K1A 0S8.
Elevations in feet above mean sea level



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DOSSIER PUBLIC
2835
GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA
OTTAWA
1994

Recommended citation:
McMartin, J.
1994: Surficial geology of the Mitishto River area, Manitoba (NTS 6311, 6312, 6316); Geological Survey of Canada, Open File 2835, 1 sheet, scale 1:100 000.

