

**WHITEMOUTH LAKE AREA**

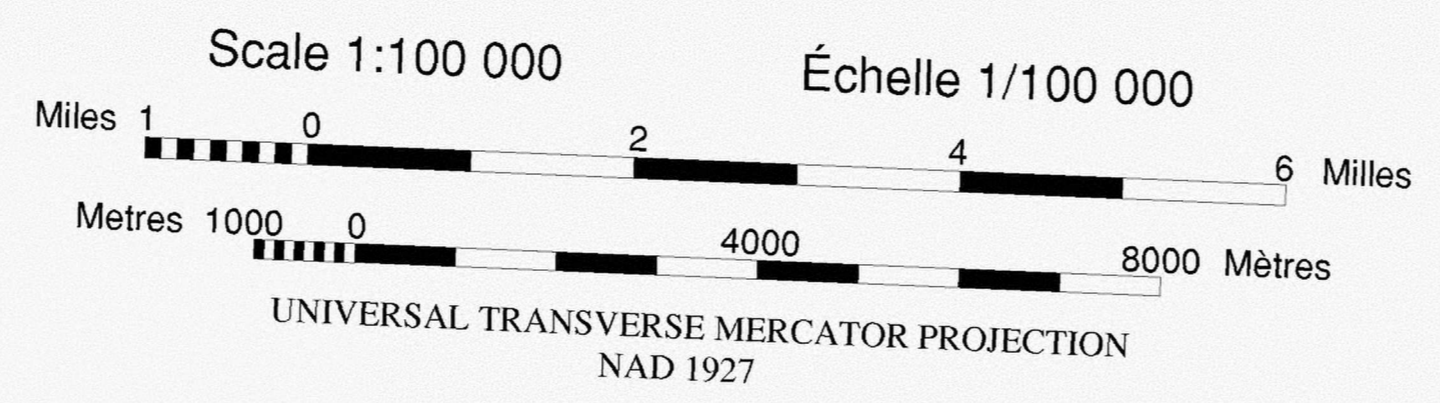
- LEGEND**
- QUATERNARY**
- NONGLACIAL SEDIMENTS: surficial material postdating and unrelated to glaciation.**
- 10: ORGANIC DEPOSITS: peat, silt, 1-4m thick; in fen and bog settings; deposited in poorly drained depressions where lack of aeration prevents decomposition of organic matter. Note: A Landsat scene is shown in areas mapped as organic deposits.
- REWORKED GLACIAL SEDIMENTS: sediments reworked from both sorted and unsorted glacial sediments.**
- 9: EOLIAN SEDIMENTS: fine sand, 1-5m thick; dunes reworked in most cases from subaqueous outwash sand.
  - 8: POSTGLACIAL SHORELINE SEDIMENTS: sand and gravel, 1-2m thick; beaches of existing lakes.
  - 7: POSTGLACIAL ALLUVIAL SEDIMENTS: gravely sand, silt, organic detritus, 1-3m thick; sediments reworked by existing streams and deposited primarily as bars.
  - 6: GLACIAL LAKE SHORELINE SEDIMENTS: sand and gravel, 1-5m thick; beach ridges, spits, bars, and nearshore sand and gravel >1m thick; sediments reworked by the wave action of glacial Lake Agassiz.
    - 6b: sand and gravel beach ridges;
    - 6a: sandy nearshore sediments.
- SORTED GLACIAL SEDIMENTS: sediments entrained and sorted by glacial meltwater and deposited in ice-contact to proglacial glaciolacustrine environments and in offshore glaciolacustrine environments.**
- 5: FINE GRAINED GLACIOLACUSTRINE SEDIMENTS: clay, silt, 1-20m thick; massive and laminated distal sediments derived from meltwater discharge and deposited from suspension in offshore, deep water of Lake Agassiz; commonly scoured and at least partially homogenized by icebergs.
    - 5b: silt and sandy silt;
    - 5a: clay and silty clay.
  - 4: SUBAQUEOUS OUTWASH: fine sand, rippled; minor gravel, silt and minor clay as thin interbeds; 1-75m thick; sediments deposited in glacial lakes by sediment-laden meltwater turbidity currents; commonly reworked into dunes.
  - 3: PROXIMAL GLACIOLACUSTRINE SEDIMENTS: sand and gravel, 1-20m thick; occur in belts with single or multiple esker ridges, kames, and kettle holes; proximal sediments deposited by meltwater in contact with glacial ice.
    - 3b: Sand and gravel predominantly derived from Paleozoic rocks;
    - 3a: Sand and gravel predominantly derived from Precambrian rocks.
- UNSORTED GLACIAL SEDIMENTS: sediments deposited directly from glacial ice.**
- 2: TILL: calcareous silt diamiction; 1-50m thick; fluted surface; subdued morphology due to reworking by waves; basal till; northwestern provenance indicated by abundant carbonate in gravel fraction; thicker sequences consist of multiple units of varying texture.
  - 1: DISCONTINUOUS DRIFT: gravely silt to sandy diamiction; sand and gravel; averages <1m thick; 25 to 75% bedrock outcrop;
    - 1b: Calcareous drift of northwestern provenance;
    - 1a: Noncalcareous drift of northeastern provenance.
- PRECAMBRIAN**
- R: ROCK: >75% bedrock outcrop; generally unweathered igneous, metasedimentary, and metavolcanic rock; glacially scoured; irregular surface with abrupt local relief; includes patches of thin drift and organic material.

- SYMBOLS**
- Approximate geological boundary
  - Dunes
  - Abandoned channel
  - Minor beach ridge
  - Wave-out scarp
  - Iceberg scour
  - Small bedrock outcrop
  - Gravel pit

Recommended Citation:  
Matis, G.D. and L.H. Thoriellson  
1995. Surficial geology, Whitemouth Lake area, Manitoba and Ontario. Geological Survey of Canada Open File 2993. Scale 1:100,000; and Manitoba Geological Services Branch Open File 95-1. Scale 1:100,000.

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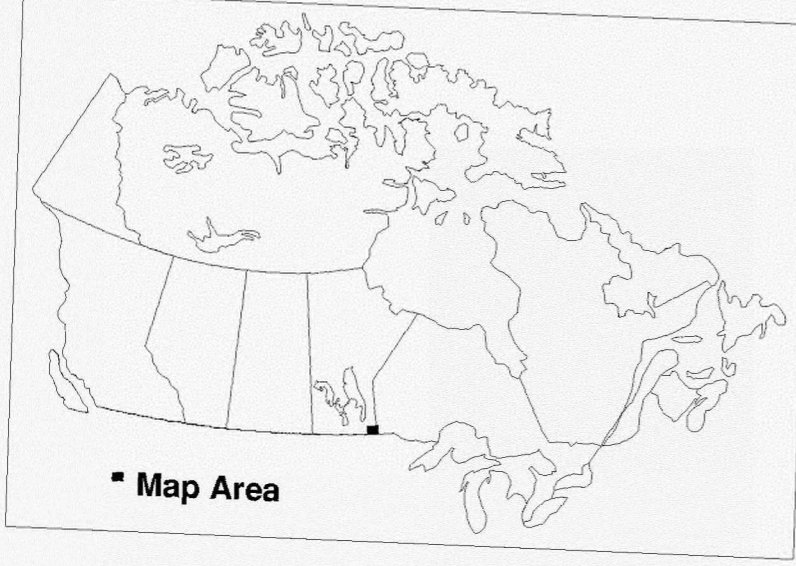
**SURFICIAL GEOLOGY - WHITEMOUTH LAKE AREA**  
MANITOBA, ONTARIO, AND MINNESOTA



**MAP SHEET INDEX**

62H NE Steinbach in progress	52E NW Falcon Lake in progress
62H SE St. Malo in progress	52E/5    52E/6 Whitemouth Lake 52E/4    52E/3

Southeastern Manitoba Project  
Four 1:100,000 map areas



Manitoba Natural Resources Remote Sensing

As an example of an enhanced peatland mapping method, a LANDSAT 5 TM image provided by the Manitoba Remote Sensing Centre is shown in areas underlain by peat, in order to display complex patterns on the peatland surface. Mapping was extended into the State of Minnesota with the permission of the Director, Minnesota Geological Survey.

Reference used in mapping of Ontario portion of the study area:  
Mining, G. V. 1989. Quaternary geology, Lake of the Woods Region, Northwestern Ontario. Progress report for Year III, Rat Portage Bay. This Map was generated by PC-based mapping software, MapInfo®. Digital cartography by Northwood Geoscience, Ottawa.

A cooperative program of surficial geological and hydrogeological mapping is being carried out in southeastern Manitoba by the Geological Survey of Canada and Manitoba Energy and Mines. The activity is funded by the National Geoscience Mapping Program (NATMAP) and the Canada-Manitoba Partnership Agreement on Mineral Development (1990-1995), a subsidiary agreement under the Canada-Manitoba Economic and Regional Development Agreement.

Users should note that the geology depicted on this map was originally plotted on NTS 1:50,000 topographic bases. The 1:250,000 base as user therefore will note numerous cases of apparent slight disagreement features due to generalization inherent in the 1:250,000 base.