

WHITEMOUTH LAKE AREA

LEGEND

QUATERNARY

**NONGLACIAL SEDIMENTS: surficial material postglacial and unrelated to glaciation.**  
 10: ORGANIC DEPOSITS: peat, muck; 1-4m thick in fen and bog settings; deposited in poorly drained depressions where lack of erosion 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: gravelly sand, sand, silt, organic detritus; 1-5m thick; sediments reworked by existing streams and deposited primarily as point 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 glaciofluvial environments and in offshore glaciolacustrine environments.**  
 5: FINE GRAINED GLACIOFLUVIAL 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, silt, 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 GLACIOFLUVIAL 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 silty 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 intrusive, metasedimentary, and metamorphic rock; glacially scoured regular surface with abrupt local relief; includes patches of thin drift and organic material.

SYMBOLS

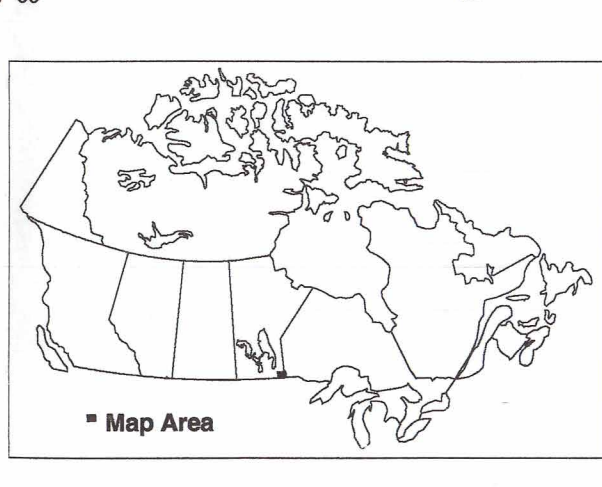
- ~ Approximate geological boundary
- ~ Dunes
- - - Abandoned channel
- - - Minor beach ridge
- - - Wave-cut scarp
- - - Iceberg scour
- x Small bedrock outcrop
- x Gravel pit

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 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.

OPEN FILE  
 95-1  
 MANITOBA GEOLOGICAL SERVICES BRANCH  
 1995

OPEN FILE  
 DOSSIER FILE  
 2993  
 GEOLOGICAL SURVEY OF CANADA  
 COMMISSION GÉOLOGIQUE DU CANADA  
 OTTAWA  
 1995

SHEET 1 OF 1

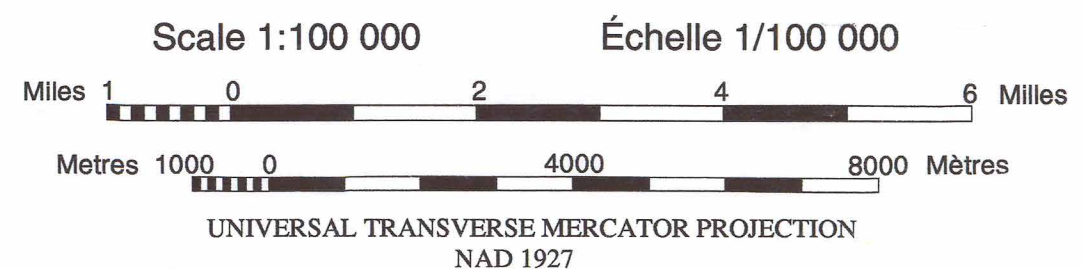


MAP SHEET INDEX

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

Southeastern Manitoba Project  
 Four 1:100,000 map areas

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



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:  
 Munnings, G.V. 1989. Quaternary geology, Lake of the Woods Region, Northwestern Ontario: Progress report for Year II, Fox Portage Bay - Northwest Angle area. Geological Survey of Canada Open File 2080, 90p.  
 This Map was generated by PC-based mapping software, Mapinfo®. Digital cartography by Northwest 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 is being used for this preliminary map in order to expedite release. The user therefore will note numerous cases of apparent slight disagreement between a geological feature and associated topographic and cultural features due to generalization inherent in the 1:250,000 base.