



**LEGEND**

This legend is common to GSC maps 2048A–2060A, and MGS geoscientific maps MAP2003-1–MAP2003-12. Coloured legend blocks indicate map units that appear on this map. Not all map symbols shown in the legend necessarily appear on this map.

- QUATERNARY**
- NONGLACIAL DEPOSITS**
- O** Organic deposits: peat, muck; <1–5 m thick; very low relief wetland deposits; accumulated in fen, bog, swamp, and marsh settings.
  - E** Eolian sediments: fine sand; 1–5 m thick; dunes; formed by wind prior to stabilization by vegetation; in most cases on subaqueous outwash sand.
  - Lm** Shoreline sediments: sand and gravel; 1–2 m thick; beaches; formed by waves at the margins of modern lakes.

- ALLUVIAL DEPOSITS:** sand and gravel, sand, silt, clay, organic detritus; 1–20 m thick; channel and overbank sediments; deposited by postglacial rivers.
- Ap** Overbank deposits.
  - Ac** Channel deposits.

- GLACIOLACUSTRINE DEPOSITS**
- GLACIAL LAKE SHORELINE SEDIMENTS:** sand and gravel; 1–20 m thick; beach ridges, spits, bars, littoral sand and gravel; formed by waves at the margin of glacial Lake Agassiz.
- Ls** Shoreline deposits.
  - Li** Littoral deposits.

- OFFSHORE GLACIOLACUSTRINE SEDIMENTS:** clay, silt, minor sand; 1–20 m thick; very low relief massive and laminated deposits; deposited from suspension in offshore, deep water of glacial Lake Agassiz; commonly scoured and homogenized by icebergs.
- Lz** Clayey to sandy silt.
  - Lc** Clay to silty clay.

- GLACIOFLUVIAL DEPOSITS**
- Gs** Subaqueous outwash: fine sand, minor gravel, thin silt and clay interbeds; 1–75 m thick; subaqueous outwash fans; deposited near the ice margin in glacial Lake Agassiz by meltwater turbidity currents, commonly reshaped by wave erosion and reworked by wind.
  - Ice-contact glaciofluvial sediments:** sand and gravel; 1–20 m thick; complex deposits, belts with single or multiple esker ridges and kames, as well as thin, low-relief deposits; deposited in contact with glacial ice by meltwater.
  - Gc** Predominantly derived from carbonate rocks.
  - Gp** Predominantly derived from igneous and metamorphic rocks.

- GLACIAL DEPOSITS**
- T** Till: calcareous silt diamict; 1–75 m thick; low-relief, commonly streamlined deposits; subglacial deposits; largely derived from carbonate rocks; thicker sequences consist of multiple units of varying textures; commonly scoured by icebergs; covered discontinuously by thin veneers (<1 m) of glaciolacustrine and glaciofluvial sediments.
  - Discontinuous till and associated glaciofluvial sediments:** gravelly silt to sand diamict; sand and gravel; 1–30 m thick; low-relief deposits between bedrock outcrops making up 25–75% of the area; sandy till interbedded and interspersed with nearly equal and often greater amounts of sandy glaciofluvial sediments, as well as minor glaciolacustrine sediments.
  - Tc** Predominantly derived from carbonate rocks.
  - Tp** Predominantly derived from igneous and metamorphic rocks.

- PRE-QUATERNARY**
- ROCK:** >75% bedrock outcrop; Paleozoic carbonate-dominated rocks in areas west and south of Lake Winnipeg; exposed typically as glacially stratified, low-relief surfaces; in Precambrian terranes, generally unweathered intrusives, metasedimentary, and metadiagenetic rocks having a glacially scoured irregular surface with high local relief; includes patches of thin glacial sediments and organic material.
- Rc** Paleozoic sedimentary rocks.
  - Rp** Precambrian igneous and metamorphic rocks.

- Geological boundary (approximate) . . . . .
- Built-up area (map GSC 2055A / MGS MAP2003-7 only) . . . . .
- Mine waste . . . . .
- Peat-extraction area . . . . .
- Gravel pit . . . . .
- Mine or bedrock quarry . . . . .
- Stabilized dunes . . . . .
- Abandoned channel . . . . .
- Minor beach ridge . . . . .
- Wave-cut scarp . . . . .
- Groundwater sapping channel . . . . .
- Piping depression . . . . .
- Iceberg scour . . . . .
- Tunnel valley . . . . .
- Esker (direction of flow indicated) . . . . .
- Streamlined landform . . . . .
- Glacial striae . . . . .
- Crossed striae (numbers indicate relative age, 1 being the oldest) . . . . .
- Small bedrock outcrop . . . . .

GSC MAP 2051A  
MGS GEOSCIENTIFIC MAP MAP2003-3  
SURFICIAL GEOLOGY  
**NOPIMING**  
MANITOBA-ONTARIO

Scale 1:100 000/Échelle 1/100 000

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This map was produced from processes that conform to the ESS Info Publishing Services Subdivision Quality Management System, registered to the ISO 9001:2000 standard

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada and the Manitoba Geological Survey

Digital base map from data compiled by Geomatics Canada, modified by ESS Info

Mean magnetic declination 2004, 2°51' E, decreasing 5.7" annually. Readings vary from 3°25' E in the SW corner to 2°18' E in the NE corner of the map

Elevations in feet above mean sea level

Unit Transverse Mercator Projection  
North American Datum 1983  
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Projection transversale universelle de Mercator  
Système de référence géodésique nord-américain, 1983  
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GSC 2048A	GSC 2050A	GSC 2051A
MGS MAP2003-1	MGS MAP2003-2	MGS MAP2003-3
GSC 2052A	GSC 2053A	GSC 2054A
MGS MAP2003-4	MGS MAP2003-5	MGS MAP2003-6
GSC 2055A	GSC 2056A	GSC 2057A
MGS MAP2003-7	MGS MAP2003-8	MGS MAP2003-9
GSC 2058A	GSC 2059A	GSC 2060A
MGS MAP2003-10	MGS MAP2003-11	MGS MAP2003-12