



**LEGEND**

This legend is common to GSC maps 2049A-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 SEDIMENTS:** 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.

**GLACIOFLUVIAL DEPOSITS**

**Ls** Shoreline deposits.

**LI** Littoral deposits.

**LZ** Clayey to sandy silt.

**Lc** Clay to silty clay.

**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.

**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 diamiction; 1–75 m thick; low-relief, commonly streamlined deposits; subglacial deposits; largely derived from carbonate rocks; thicker sequences consist of multiple units of varying texture; commonly scoured by icebergs, covered discontinuously by thin veneers (<1 m) of glaciolacustrine and glaciofluvial sediments.

**DISCONTINUOUS TILL AND ASSOCIATED GLACIOFLUVIAL SEDIMENTS:** gravely silt to sand diamiction, 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 striated, low-relief surfaces; in Precambrian terrane, generally unweathered intrusive, metasedimentary, and metavolcanic 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**

Copies of this map may be obtained from the Geological Survey of Canada, 601 Booth Street, Ottawa, Ontario K1A 0S8, 3303-20th Street, N.W., Calgary, Alberta T2B 2A7, 10-4200 Ritten Street, Vancouver, B.C. V6R 2J3, Manitoba Industry, Economic Development and Mines, Manitoba Geological Survey, Publication Sales, 360-1905 Ellice Avenue, Winnipeg, Manitoba R3P 3P2.

Geology by G.L.D. Matile, Manitoba Geological Survey, 1997–1998.

Co-ordinated by H. Thorlinton and G.L.D. Matile through the auspices of the Southern Prairies NATMAP Project and Winnipeg Region NATMAP Project.

Digital cartography by P. St-Amour, Earth Sciences Sector Information Division (ESS Info).

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



GSC MAP 2055A  
MGS GEOSCIENTIFIC MAP MAP2003-7  
SURFICIAL GEOLOGY  
**WINNIPEG**  
MANITOBA

Scale 1:100 000/Échelle 1/100 000

kilometres 0 2 4 6 8 kilometres

Universal 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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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, 5°00' E, decreasing 6.3' annually. Readings vary from 5°31' E in the SW corner to 4°29' E in the NE corner of the map.

Elevations in metres above mean sea level north of 49°45' latitude and in feet above mean sea level south of 49°45' latitude.

GSC 2049A	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

MATERIAL INFORMATION SYSTEMS REFERENCE AND INDEX TO ALLEGED GEOLOGICAL SURVEY OF CANADA AND MANITOBA GEOLOGICAL SURVEY MAPS

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**Matile, G.L.D.**  
2004: Surficial geology, Winnipeg, Manitoba: Geological Survey of Canada, Map 2055A; Manitoba Industry, Economic Development and Mines, Manitoba Geological Survey, Geoscientific Map MAP2003-7, scale 1:100 000.