

Scale 1:250 000

0 10 20 30  
Kilometres

## LEGEND

### Quaternary

- O** ORGANIC DEPOSITS: peat, muck; <1–5 m thick; very low relief wetland deposits; commonly in low-lying areas; accumulated in fen, bog, swamp, and marsh settings; in permafrost areas commonly includes permafrost features such as patterned ground and peat palsas.
- Lm** SHORELINE SEDIMENTS: sand and gravel; 1–2 m thick; beaches; formed by waves at the margins of modern lakes
- E** EOLIAN: sand and minor silt; dunes, blowouts and undulating plains; generally overlies deltaic sediments, coarse lacustrine sediments, or glaciofluvial deposits
- A** ALLUVIAL SEDIMENTS: sand and gravel, sand, silt, clay, organic detritus; 1–20 m thick; channel and overbank sediments; reworked by existing rivers and deposited primarily as bars
- Ms** MARGINAL GLACIOMARINE SEDIMENTS: littoral sand and gravel; 1–10 m thick; beach ridges, spits, bars; formed by waves at the margin of the glacial Tyrrell Sea and present-day Hudson Bay
- M** OFFSHORE GLACIOMARINE SEDIMENTS: clay, silt, minor sand; 1–20 m thick; very low relief massive and laminated deposits which are commonly overlain by peat; deposited from suspension in the offshore, deep water of the glacial Tyrrell Sea and present-day Hudson Bay
- Ls** MARGINAL GLACIOLACUSTRINE 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 and other small proglacial lakes in the extreme northwestern portion of the province
- Lc** OFFSHORE GLACIOLACUSTRINE SEDIMENTS: clay, silt, minor sand; 1–20 m thick; low relief massive and laminated deposits; deposited from suspension in offshore, deep water of glacial Lake Agassiz; commonly scoured and homogenized by icebergs
- Gs** DISTAL GLACIOFLUVIAL SEDIMENTS: fine sand, minor gravel, thin silt and clay interbeds; 1–75 m thick; subaqueous outwash fans; deposited in glacial Lake Agassiz by meltwater turbidity currents; commonly reshaped by wave erosion and reworked by wind
- G** PROXIMAL 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

**TILL:** diamicton; unsorted glacial debris; 1–75 m thick; generally low-relief, commonly streamlined deposits; in Lake Agassiz basin areas, till can be wave-washed, covered discontinuously by a thin veneer of glaciolacustrine sediments and scoured by icebergs; thicker sequences, primarily in the Hudson Bay Lowland, consist of multiple units of varying texture and provenance

- Tc** Silt diamicton; largely derived from Phanerozoic carbonate rocks from the Hudson Bay Lowland and deposited by an ice stream emanating from Hudson Bay
- Tp** Sand diamicton; commonly bouldery, predominantly composed of Precambrian crystalline rocks and deposited by ice emanating from Nunavut

### Pre-Quaternary

**ROCK:** > 75% bedrock outcrop; generally subglacially eroded and unweathered; in areas of permafrost includes frost shattered, angular, monolithic boulder fields (Felsenmeer)

- Rc** Paleozoic terrane; carbonate-dominated rocks in areas west of Lake Winnipeg, exposed typically as glacially striated, low-relief surfaces, and along large river valleys in the Hudson Bay Lowland
- Rp** Precambrian terrane; intrusive, metasedimentary, and metavolcanic rocks having a glacially scoured irregular surface with high local relief

Uncoloured legend blocks indicate units that do not appear on this map.  
Letter symbols on legend blocks (not shown on map face) are used to identify units in the map legend database included on the DVD.  
To aid the reader, a shadow effect has been added to exaggerate the topographic relief based on data from the Shuttle Radar Topography Mission Digital Elevation Model<sup>1</sup>.

<sup>1</sup> United States Geological Survey 2002: Shuttle radar topography mission, digital elevation model, Manitoba: United States Geological Survey, URL: <http://ned.sftp.usgs.gov/pub/data/srtm/>, portions of files N48W088W102.zip through N60W102W102.zip, 1.5 Mb (variable), 90 m cell, zipped hgt format (Mar 2003).

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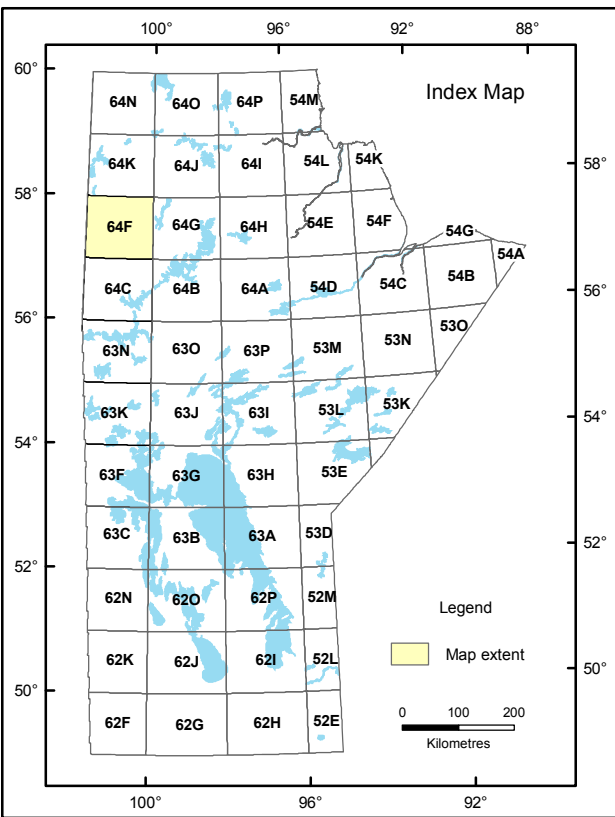
Compiled by: G.L.D. Matile and G.R. Keller

Modified from:  
Kaszynski, C.A. and Nee, V.J. 1990: Surficial geology, Brochet, Manitoba; Geological Survey of Canada, "A" Series Map, Map 1760A, scale 1:250 000.

## SURFICIAL GEOLOGY COMPILATION MAP SERIES

SG-64F

## Surficial geology of the Brochet map sheet (NTS 64F), Manitoba



North American Datum 1983  
Universal Transverse Mercator Projection, Zone 14  
Shuttle Radar Topography Mission elevation data provided by NASA (2003)  
100X vertical exaggeration  
Approximate mean declination (2006) for centre of map is 7°39' E, decreasing 14.8' annually.

The DVD containing the entire Surficial Geology Compilation Map Series can be obtained from:  
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Suggested reference:  
Matile, G.L.D. and Keller, G.R. 2006: Surficial geology of the Brochet map sheet (NTS 64F),  
Manitoba; Manitoba Science, Technology, Energy and Mines, Manitoba Geological Survey,  
Surficial Geology Compilation Map Series, SG-64F, scale 1:250 000.

