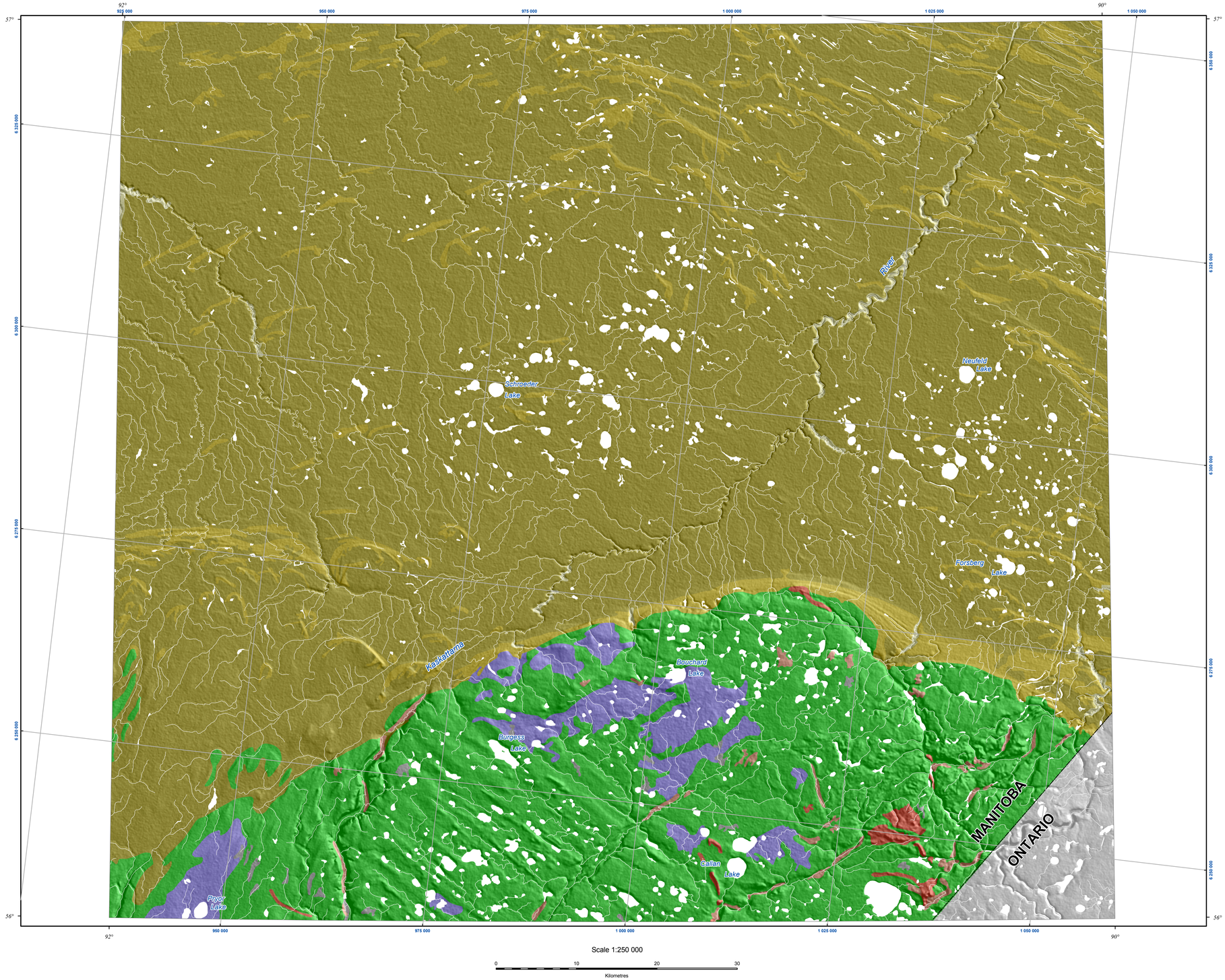

Scale 1:250 000

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.[1]

[1] United States Geological Survey 2002: Shuttle radar topography mission, digital elevation model, Manitoba; United States Geological Survey, URL <ftp://edcsgs9.cr.usgs.gov/pub/data/srtm/>, portions of files N48W98W.hgt.zip through N60W102.hgt.zip, 1.5 Mb (variable), 90 m cell, zipped hgt format [Mar 2003].

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Clarke, M.D. 1989: Surficial geology, Kaskattama River, Manitoba-Ontario; Geological Survey of Canada, "A" Series Map, Map 1696A, scale 1:250 000.

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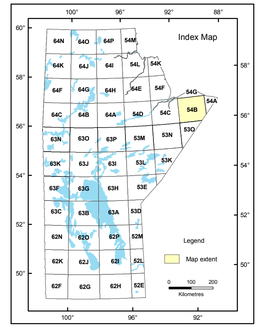
SG-54B

Surficial geology of the Kaskattama River map sheet (NTS 54B), 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 4°28' W, increasing 4.1' annually.

The DVD containing the entire Surficial Geology Compilation Map Series can be obtained from:
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This map is available to download free of charge at
www.gov.mb.ca/minerals

Suggested reference:
Matile, G.L.D. and Keller, G.R. 2006: Surficial geology of the Kaskattama River map sheet (NTS 54B), Manitoba; Manitoba Science, Technology, Energy and Mines, Manitoba Geological Survey, Surficial Geology Compilation Map Series, SG-54B, scale 1:250 000.