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GEOLOGICAL SURVEY OF CANADA | COMMISSION GÉOLOGIQUE DU CANADA

NATMAP
CARTMAT
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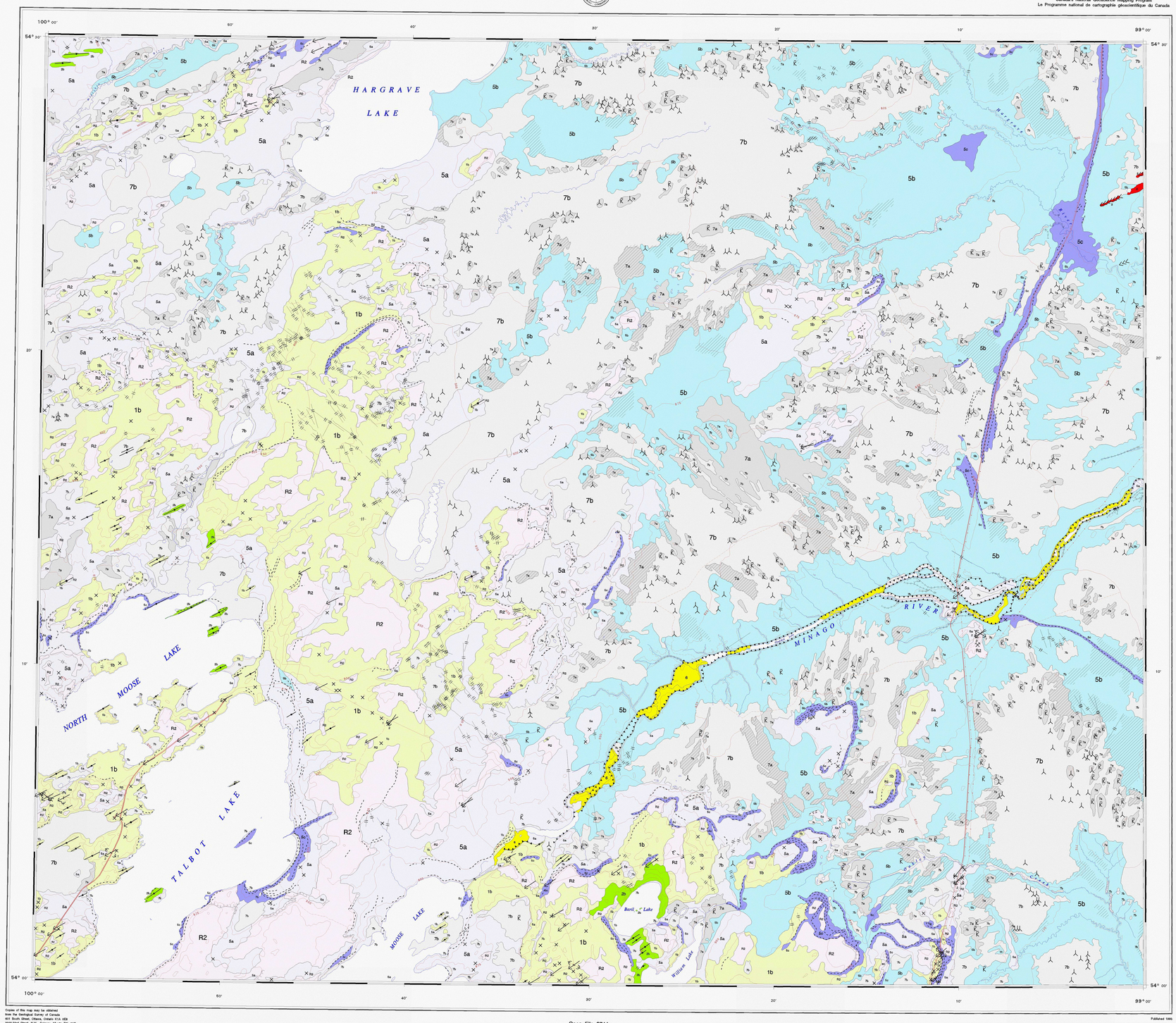

Copies of this map may be obtained from the Geological Survey of Canada
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Published 1995

Open File 2744

SURFICIAL

SURFICIAL GEOLOGY OF THE TALBOT LAKE AREA

MANITOBA

Scale 1:100 000 - Échelle 1/100 000

Kilometres 2 0 2 4 6 8 Kilometres

Universal Transverse Mercator Projection
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Projection transverse universelle de Mercator
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LOCATION MAP

Canada

Geology by I. McMartin, 1992-1993

Digital cartography by Informatics and Scientific Services Section (Terrain Science Division) and M. Sigouin, Geological Survey of Canada

Coordinated through the auspices of the NATMAP Shield Margin Project by I. McMartin

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

Mean magnetic declination 1993, 9°23' E, increasing 9.4' annually. Readings vary from 7°48' E in the SE corner to 9°58' E in the NW corner of the map.

Digital base map from Surveys, Mapping and Remote Sensing published at 1:50000 scale. Generalized and assembled by the Geological Survey of Canada

Copies of the topographical editions covering this map area may be obtained from the Canada Map Office, Department of Natural Resources, Ottawa, Ontario, K1A 0E9

Elevations in feet above mean sea level

NATMAP SHIELD MARGIN AREA

LEGEND

Coloured legend blocks indicate map units that appear on this map

QUATERNARY - SURFICIAL DEPOSITS

NONGLACIAL ENVIRONMENT

ORGANIC DEPOSITS: peat, 1 to 3 m thick; commonly underlain by fine glacial lake deposits; mantles extensive areas on the Paleozoic terrain or occurs in more confined low-lying poorly drained parts of the Shield

7b — *Fen peat: wet, sedge and moss peat; includes string fen, delta and riverine marshes; occurs as flat grassy surfaces with few trees, and commonly visible surface waters; derived from sedge and moss vegetation; permafrost appears to be absent except in isolated palsa or peat plateau which occur within the fen bog*

7a — *Bog peat: moss and woody peat; occurs as raised irregular surfaces with an open to closed tree cover; derived from spruce forest vegetation; thermokarst depressions and ponds, wooded palsas and forested peat plateaus are common; contains some areas of collapse scar fens*

6 — *ALLUVIAL DEPOSITS: silt, sand, and gravel, up to 20 m thick; deposited by running water in both modern and old streams; occurs mostly in the drainageway of the Saskatchewan River, as floodplains, terraces, point bars, meander scars, and deltas*

PROGLACIAL ENVIRONMENT

GLACIAL LAKE DEPOSITS: massive to stratified clay, silt, sand, and gravel; thickness ranges from a thin veneer to tens of metres; deposited in glacial Lake Agassiz and carried to the basin in large part by glacial meltwater

5c — *Nearshore and littoral sediments: sand, gravel, and rock rubble, moderately sorted and commonly horizontally bedded; occuring either as a blanket of sand (commonly less than 2 m thick) grading basinward into finer sediments or as isolated or series of ridges, 1 to 3 m in height (includes beaches, bars, and spits), commonly well developped on glaciofluvial deposits; flights of rubble beach deposits occur on carbonate bedrock in the SE part of the study area*

5b — *Offshore sediments: clay, silt and silty sand; generally laminated, greyish, and weakly calcareous, or massive and brownish near surface; 2 to 18 m thick; up to 45 m thick in the Minago glaciolacustrine plain; may contain iceberg sediments, turbidites, and clayey diamictons deposited at the ice margin or under a floating ice shelf; forms flat plains in low relief areas, commonly mantled with peat; surfaces locally inscribed by iceberg scours*

5a — *Offshore sediment veneer: clay, silt and silty sand; forms a discontinuous blanket, less than 2 m thick; deposits mimicking underlying glacial and bedrock topography; also includes undifferentiated glaciolacustrine sediments deposited in deep water beyond or near the ice margin*

GLACIAL ENVIRONMENT

GLACIOFLUVIAL DEPOSITS: water sorted, stratified sand, gravel, and cobbles; up to 35 m thick; deposited in, around, or near a glacier, largely as a result of meltwater flow

4 — *Outwash sediments: sands and gravels, well rounded and commonly stratified; 2 to 20 m thick; broken by braided channels and kettle depressions; occurs either as valley trains and subaerial outwash fans, within or adjacent to meltwater channels or as subaqueous fans formed in glacial Lake Agassiz; surfaces are commonly terraced and hummocky*

3 — *Ice contact stratified drift: interstratified sand, gravel, cobbles, and diamicton; thickness ranges from 3 to 25 m; forming eskers, kames, crevasse fillings, ice contact deltas, and recessional, end, and interlobate moraines*

GLACIAL DEPOSITS: till and related sediments, comprising unsorted to poorly sorted debris deposited at the front of or beneath glaciers. Glacial deposits of northern provenance are generally sandy, non to slightly calcareous (matrix contains 0 to 3% carbonate), and contain almost exclusively debris derived from Shield lithologies. Those of eastern provenance or underlain by Paleozoic bedrock are generally silty sandy, slightly to strongly calcareous, and contain fewer Shield clasts

2a 2b — *Till blanket: forms a continuous cover, 1 to several metres in thickness, masking underlying bedrock topography; surface commonly fluted and may be covered by a discontinuous blanket of Lake Agassiz clay; 2a - non calcareous till; 2b - calcareous till*

1a 1b — *Till veneer: forms a discontinuous cover, ranging from 0 to 1 m in thickness; commonly occurs on the lee side of bedrock highs; interspersed with isolated areas of thicker till in bedrock depressions; surface morphology reflects underlying bedrock structure; 1a - non-calcareous till; 1b - calcareous till*

PRE-QUATERNARY - BEDROCK

R_s — *Paleozoic sedimentary carbonate rocks: primarily dolomite and dolomitic limestone, and some sandstones; surfaces are commonly pitted and trout shattered, but glacially polished and striated surfaces are preserved locally; occurs as flat-lying outcrops with patches of thin drift*

R_c — *Precambrian metavolcanic and metasedimentary rocks and associated intrusive bodies: metavolcanics, metasediments, granitic and gneissic lithologies, and some gabbroic intrusions; glacially scoured outcrops form abundant roches moutonnées and striated or grooved surfaces; gently rolling topography with thin patchy drift cover*

SYMBOLS

- Geological boundary
- Small bedrock outcrop
- Rock escarpment
- Striae (ice flow direction known, unknown; poorly defined)
- Crossed striae (1 = oldest)
- Streamlined landform
- Crag and tail landform
- Roches moutonnées
- Iceberg scour
- Moraine ridge (recessional, end or interlobate)
- Esker (direction of flow known, unknown)
- Abandonned river channel (large, small)
- Kettle hole (small, large)
- Beach ridge, terrace, spit, or bar
- Thermokarst depressions (small, large)
- Palsen and peat plateau
- Gravel pit (active, abandonned)
- Quarry

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DOSSIER PUBLIC
2744
GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA
OTTAWA
1993

Recommended citation:
McMartin, I.
1993: Surficial geology of the Talbot Lake area, Manitoba (NTS 63J5 to J8); Geological Survey of Canada, Open File 2744, 1 sheet, scale 1:100000