Natural Resources Canada / Ressources naturelles Canada

GEOLOGICAL SURVEY OF CANADA / COMMISSION GÉOLOGIQUE DU CANADA

H U D S O N B A Y

B A I E D ' H U D S O N

LEGEND

PEAT

- O — *Sphagnum and sedge peat containing ground ice. Sphagnum peat is the main component of bogs, while sedge peat is the main component of fens. Extensive peatlands are prevalent in areas of marine and glaciolacustrine deposits.*

ALLUVIUM

- Ap — ***Modern alluvium:*** *sand and gravel deposited by modern streams; occurs as floodplains, point bars and deltas.*
- At — ***Subrecent alluvium:*** *sand and gravel deposited by postglacial streams with base levels above present; forms channels and meander scrolls on terraces above present rivers.*

MARINE AND GLACIOMARINE DEPOSITS

- M — ***Undifferentiated marine deposits:*** *marine offlap sequence relating to the Tyrrell Sea, consisting of a basal unit of stony glaciomarine deposits, grading laterally and upwards to clay and silt, and to littoral sand and gravel; forms extensive lowland plains inland from Hudson Bay. South of 59°N, this unit is mantled with peat.*
- Mc — ***Silty marine deposits:*** *silt, becoming clayey with depth. Fine-grained marine deposits exposed on the surface are primarily stratified intertidal silts containing organic remains; forms flat low areas between beach ridges.*
- Ms — ***Marine sand and gravel:*** *stratified sublittoral sand, and littoral sand and gravel. Sublittoral deposits form blankets capping the offlap sequence, while sand and gravel comprise the beach ridges prevalent near the coast and inland near the upper limit of postglacial marine submergence.*

GLACIOLACUSTRINE DEPOSITS

- Ls — ***Glaciolacustrine sand and gravel:*** *stratified sand forms blanket deposits, and deltas where esker tunnels debouched into glacial Lake Agassiz. Sand and gravel deposits occur as beach ridges and as De Geer moraines.*
- Lc — ***Glaciolacustrine silt and clay:*** *rhythmites of silt and clay, or massive clay, slightly to moderately calcareous, grey to red-brown in colour; forms plains.*

GLACIOFLUVIAL DEPOSITS

- Gp — ***Outwash:*** *cross-stratified sand and rounded gravel; occurs as bottom deposits in proglacial meltwater channels.*
- Gr — ***Kame and esker deposits:*** *stratified sand to poorly sorted sand and gravel deposited subglacially and at the ice margin; forms long, sinuous, steep-crested esker ridges, or broad-crested hummocky interlobate kame moraines up to 60 m high.*
- Gx — ***Crevasse fillings:*** *poorly sorted sand and gravel originating along fractures in inactive glacier ice; forms reticulate networks of ridges along eskers or between areas of ribbed moraine.*

TILL

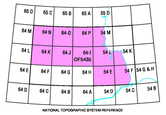
- Tc — ***Silty till:*** *diamictic glacial debris deposited by Labradorean or Hudsonian ice; contains subangular clasts in a calcareous clayey silt matrix; occurs as till plains and is generally covered by organic deposits.*
- Ts — ***Sandy till:*** *diamictic to poorly stratified glacial debris deposited by Keewatin ice; contains subangular clasts in a silty sand matrix; occurs as till plains with drumlins, small end moraines, and is a constituent of De Geer moraines associated with Keewatin ice.*
- Tb — ***Bouldery till:*** *diamictic to poorly sorted glacial debris deposited by Keewatin ice; contains abundant boulder to pebble-sized clasts in a sandy matrix; occurs as till plains and ribbed moraine.*
- Tv — ***Till veneer:*** *till deposits less than 2 m in thickness, mainly sandy or bouldery till; overlies bedrock and is interspersed with thick till or rock outcrop.*

BEDROCK AND BROKEN ROCK

- Rx — ***Broken rock:*** *trout-shattered bedrock, mainly granitic and gneissic lithologies; occurs as large angular blocks; forms extensive plains north of Seal River and as boulder patches in low wet areas elsewhere.*
- R — ***Bedrock outcrop:*** *granitic, gneissic and metavolcanic bedrock, with some limestone along the coast at Churchill; forms knobs and hilly uplands. Surfaces have been glacially scoured, and subsequently weathered by subaerial exposure.*

- Geological boundary (defined)
- End moraine
- Major interlobate moraine
- Ribbed moraine
- De Geer moraine
- Abandoned meltwater channel, large
- Abandoned meltwater channel, small (direction known, unknown)
- Buried valley
- Beach ridge
- Esker (direction known, unknown)
- Washed esker (direction known, unknown)
- Esker (ice-contact) delta
- Small bedrock outcrop
- Drumlin and fluting
- Striation

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE



REFERENCES

Dredge, L.A. and Nixon, F.M.
1992: Glacial and Environmental Geology of northeastern Manitoba; Geological Survey of Canada, Memoir 432, 80p. and Map 1817A.

Dredge, L.A. and Pehrsson, S.J.
2006: Geochemistry and physical properties of till in northernmost Manitoba; Geological Survey of Canada, Open File 5320 (CD-ROM).

Dredge, L.A., Nixon, F.M., and Richardson, R.J.
1986: Quaternary Geology and Geomorphology of northwestern Manitoba; Geological Survey of Canada, Memoir 416, 38p. and Map 1608A.

LOCATION MAP

Authors: L.A. Dredge, I. McMartin, and M. Pyne

Geology by L.A. Dredge, I. McMartin, and M. Pyne; 1977–1985

Compilation by L.A. Dredge, 2006

Digital compilation by L. Robertson, GSC Northern Canada Division and G. Matile, Manitoba Geological Survey, 2006

Digital cartography E. Everett, Data Dissemination Division (GDO)

OPEN FILE 5435

SURFACE MATERIALS AND LANDFORMS

NORTHERNMOST MANITOBA

Scale 1:500 000/Échelle 1/500 000

kilometres 10 0 10 20 30 40 kilometres

Universal Transverse Mercator Projection
North American Datum 1983
© Her Majesty the Queen in Right of Canada 2007

Projection transverse universelle de Mercator
Système de référence géodésique nord-américain, 1983
© Sa Majesté la Reine du chef du Canada 2007

This map was produced from processes that conform to the Scientific and Technical Publishing Services Subdivision (GDO) 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

Digital base map from data compiled by Geomatics Canada, modified by GDO

Some geographical names subject to revision

Mean magnetic declination 2007, 1°53'E, decreasing 11.5' annually. Readings vary from 8°34' E in the SW corner to 5°34' W in the NE corner of the map

Elevations in metres above mean sea level

OPEN FILE
DOSSIER PUBLIC
5435
GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA
2007

Open files are products that have not gone through the GSC formal publication process.

Les dossiers publics sont des produits qui n'ont pas été soumis au processus officiel de publication de la CGC.

Recommended citation:
Dredge, L.A., McMartin, I., and Pyne, M. 2007: Surface materials and landforms, northernmost Manitoba; Geological Survey of Canada, Open File 5435, scale 1:500 000, and 22 p.

Canada