GEOLOGICAL SURVEY OF CANADA COMMISSION GÉOLOGIQUE DU CANADA

SURFICIAL GEOLOGY

SURFICIAL DEPOSITS
QUATERNARY

NONGLACIAL ENVIRONMENT

7 **ORGANIC DEPOSITS:** lichen-moss, sedge, and woody peat; thickness variable; includes both bog peat and fen peat; occupies most topographic lows within the landscape.

6 **ALLUVIAL DEPOSITS:** silt, sand and rounded gravel, commonly terraced; thickness variable, ranging from a thin veneer, up to several metres; deposited by streams within active drainage systems.

NONGLACIAL AND GLACIAL ENVIRONMENT

MARINE/GLACIOMARINE DEPOSITS: well sorted sand, stratified sand to stony silt deposited in Tyrrell Sea, and glacial deposits modified by marine processes during offlap; commonly overlain by peat.

*5b Nearshore Sediments: well sorted silt, sand and gravel; up to 3 m thick; occurs as a series of ridges in the form of beaches, bars, spits, and ice-pushed ridges, or as a flat plain.

*5a Offshore Sediments: poorly sorted clayey silt, stony silt, and sand with pockets of nearshore sand and gravel; commonly massive; probably a till plain modified by filling of depressions and plaining by wave action; thicknesses of up to 2 m near former shorelines, decreasing to a few centimetres below Bay; may contain marine fossils and is commonly overlain by organic materials.

GLACIOLACUSTRINE DEPOSITS: massive to laminated sand, silt and clay, commonly overlain by a veneer of sand; deposited in glacial Lake Agassiz; thickness variable; deposits may form a thin veneer mantecking underlying glacial and bedrock topography; thick sequences mask underlying topography and form plainar surfaces commonly mantled with peat.

4b Nearshore and littoral sediments: nearshore sediments comprise well sorted sand, gravel and cobbles, occurring as one or a series of ridges, 1 to 4 metres in height; includes beaches, bars and spits; commonly well developed on wave washed glaciofluvial deposits; littoral sediments comprise a blanket of sand grading basinward into underlying silt and clay.

4a Offshore sediments: laminated sand, silt and clay; thickness variable, ranging from a thin veneer to tens of metres in thickness; thick accumulations form planar surfaces commonly characterized by extensive peat cover.

GLACIAL ENVIRONMENT

GLACIOFLUVIAL DEPOSITS: water sorted, stratified sand and gravelly sand and cobbles, deposited in, around, or near a glacier as a result of meltwater flow.

*3 Outwash sediments: well rounded, cross-stratified sands and gravels, 3 m to 20 m thick, characterized by braided channels and kettle depressions; may form valley trains or outwash fans; surfaces are commonly terraced and hummocky.

2 Ice-contact stratified drift: composed of interstratified sand, gravel, cobbles and diamicton, deposited by meltwater flowing in contact with, or proximal to glacier ice; thickness variable, ranging from 5 to 30 metres; commonly forms positive relief features including eskers, kames, crevasse fillings, ice-contact deltas and recessional, end or interlobate moraines.

GLACIAL DEPOSITS: till and related sediments, comprising unsorted to poorly sorted debris deposited at the front of or beneath glaciers, or under ice shelves. Glacial deposits in the western part of the study area (NTS 63N, 64C and 64F) are dominantly sandy and contain a significant component derived from crystalline shield lithologies. Further east (NTS 64B and 64G), glacial deposits are silty and contain a large proportion of calcareous debris derived from Paleozoic carbonate lithologies flooring Hudson Bay and adjacent lowlands.

1b 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 veneer of Lake Agassiz clay.

1a Till Veneer: forms a discontinuous cover, ranging from 0 to 3 metres in thickness; thicker deposits may fill isolated bedrock depressions; surface morphology reflects underlying bedrock structure;

BEDROCK
PRE-QUATERNARY

*R2 **PALEOZOIC ROCK:** sedimentary carbonate rocks; dolomitic limestone and dolomite.

R1 **PRECAMBRIAN ROCK:** east/west trending belts of metasedimentary and metavolcanic rocks and associated felsic to mafic intrusive lithologies.

SYMBOLS

- bedrock outcrop
- striae (ice flow direction known, unknown, ill defined)
- crossed striae (1 = oldest)
- fluting
- * crag and tail (direction of ice flow known)
- * crevasse filling
- * kettle hole
- recessional, end or interlobate moraine
- esker (direction of flow known, unknown)
- * meltwater channel (large, small)
- beach ridge
- thermokarst depression
- * dunes
- * ice-contact delta
- flooded area

* unit or symbol does not appear on this map sheet

Geology by C. A. Kaszycki, 1986.

Compiled by C. A. Kaszycki and V. J. Way Non, 1988.

64 F OF 1331	64 G OF 2020	64 H
64 C OF 1258	64 B OF 2019	64 A
63 N OF 2021	63 O	63 P

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS

SURFICIAL GEOLOGY
KISSISSING
MANITOBA

Scale 1:125 000 - Échelle 1:125 000

Kilometres 0 2 4 6 8 10 Kilometres

Universal Transverse Mercator Projection
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Manitoba Energy and Mines

Energy, Mines and Resources Canada | Energie, Mines et Ressources Canada

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