

SURFICIAL GEOLOGY

SURFICIAL DEPOSITS  
QUATERNARY

NONGLACIAL ENVIRONMENT

- 7 ORGANIC DEPOSITS: lichen-moss, sedge, and woody peat; 1.5 to 3 m thick; may occur at or up to 3 m above the water table; includes both bog peat and fen peat. Peat mantles most geological features.

FLUVIAL DEPOSITS: material deposited by streams within active drainage systems since the retreat of the sea, proglacial lakes, or glacial ice.

- 6 Alluvial sediments: silt, sand, and rounded gravel, commonly terraced; thicknesses range from a thin veneer up to 30 m; deposited by running water as floodplains, spits, point bars, and islands; this unit contains minor deltaic sediments.

NONGLACIAL AND GLACIAL ENVIRONMENT

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

- \* 5c Deltaic sediments: sand, pebbly sand, and gravel deposited in Tyrrell Sea by glacial or nonglacial streams.

- \* 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 and windblown sand; probably a till plain levelled by filling of depressions and planation by wave action; thicknesses of up to 2 m near marine limit and increasing towards Hudson Bay to a maximum of 7 m; may contain marine fossils and is commonly overlain by organic materials.

LACUSTRINE/GLACIOLACUSTRINE DEPOSITS: massive to bedded silt-clay with granules, overlain by a veneer of sand. Deposited in glacial Lake Agassiz; where deposits are thin, they mirror the underlying glacial and bedrock structures, and where thick, they form a flat plain.

- 4b Nearshore sediments: well sorted sand and gravel; occurs as a ridge or series of ridges with 1 to 4 m of relief; includes beaches, bars, spits, and ice-pushed ridges.

- 4a Offshore sediments: well sorted clay, silt, and sand; thickness ranges from a thin veneer up to 20 m; surface characterized by iceberg scours and extensive areas of peat.

GLACIAL ENVIRONMENT

GLACIOFLUVIAL DEPOSITS: water sorted, stratified sand and gravelly sand deposited in, around, or near a glacier, largely 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; occurs along the flanks of eskers or in the bottom of subglacial and proglacial meltwater channels; surfaces are commonly terraced and hummocky.

- 2 Ice contact stratified drift: well sorted, poorly stratified sand and gravel kame deposits, 10 to 30 m high, stratified sand and minor gravel esker deposits, 5 to 20 m high, and recessional, end, or interlobate moraines. Kames occur as irregular mounds flanking eskers. Eskers occur as elongate ridges, generally parallel to the direction of ice movement.

GLACIAL DEPOSITS (TILL): poorly sorted debris deposited at the front of or beneath glaciers or under ice shelves. The tills of the western side of the province are sandy to silty sand and have a high percentage of clasts derived from granitic terrain; the tills of the eastern side are generally silty and highly calcareous.

- 1b Till blanket: silty to sandy, 1 to 10 m thick; masks most of the bedrock features; surface features include drumlins, fluting, ribbed moraine, and hummocks.

- 1a Till veneer: sandy, usually less than 1 m thick, interspersed with areas of thicker till, bedrock, marine or lacustrine sediments. Surface reflects the underlying bedrock structure.

BEDROCK  
PRE-QUATERNARY

- \* R<sub>2</sub> Paleozoic rock: sedimentary carbonate rocks; dolomitic limestone and dolomite.

- R<sub>1</sub> Precambrian rock: largely massive granitic and gneissic rock with isolated bands of volcanic rock.

- x small bedrock outcrop
- \* / s striae (ice flow direction known, unknown)
- / drumlin
- / fluting
- / crag and tail (direction of ice flow known)
- / recessional, lateral, or end moraine ridge
- / ribbed moraine
- / esker (direction of flow known, unknown)
- / meltwater channel (large, small)
- / beach ridge
- / trimline or terrace slope break
- \* ~ Tyrrell Sea limit

\* unit or symbol does not appear on this map

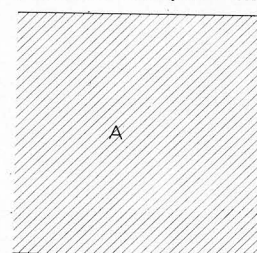
Geology by M.D. Clarke, 1984-1985, based mainly on airphoto interpretation with limited field checking.

Reference:

- Neilsen, E.  
1980: Quaternary geology and gravel resources of the Island Lake - Red Sucker Lake area; Manitoba Department of Energy and Mines, Geological Report GR80-3.

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DIAGRAM - CROQUIS D'EXACTITUDE



in aerial photographs taken between 1955 and 1958.

Compiled, 1963, by the SURVEYS AND MAPPING BRANCH,  
DEPARTMENT OF MINES AND TECHNICAL SURVEYS.

Field surveys 1962. Printed 1965.  
Magnetic declination 1964 varies from 05°05' easterly at  
centre of west edge to 02°08' easterly at centre of east  
edge. Mean annual change 2.2' easterly.

Road, dry weather.....Route, temps sec.  
Wagon or winter road. Chemin de terre ou d'hiver.....  
Indefinite.....Imprecis.  
Trail or portage.....Sentier ou portage.

STULL LAKE

MANITOBA - ONTARIO

Scale 1:250,000 Échelle

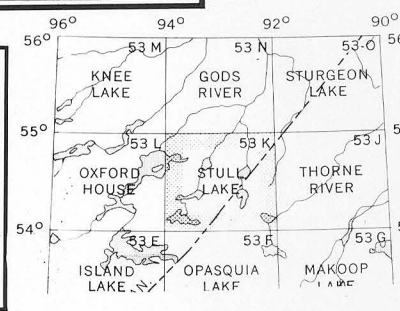
SURFICIAL GEOLOGY

Rédigé en 1963, par la DIRECTION DES LEVÉS ET DE LA  
CARTOGRAPHIE, MINISTÈRE DES MINES ET DES RE-  
LEVÉS TECHNIQUES. Levés sur le terrain en 1962. Imprimé en  
1965.

La déclinaison magnétique pour 1964 varie de 05°06' Est  
au centre de la limite Ouest à 02°08' Est au centre de la  
limite Est. Variation moyenne annuelle 2.2' Est.

Stream.....Cours d'eau  
intermittent or dry.....intermittent ou à sec.  
Indefinite.....Imprecis.  
Road, dry weather.....Route, temps sec.

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GEOLOGICAL SURVEY  
COMMISSION GÉOLOGIQUE  
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