



LEGEND
 Note: some map units and symbols shown in the legend may not appear on this map

SURFICIAL GEOLOGY

SURFICIAL DEPOSITS

QUATERNARY

ALLUVIAL DEPOSITS: stream deposited material within modern active drainage systems; modern in the sense of the retreat of the sea, projection, or glacial limit.

Ac Alluvium: silt, sand, and gravel deposited in channels and on floodplains; may include alluvium in terraces which formed as stream cut to present level in glacial and marine sedimentary fill.

Ad Deltaic sediments: sand, gravel, and boulders deposited where modern streams enter lakes or Hudson Bay.

AM Alluvium and marine sand or silt, undifferentiated: occurs in areas consisting of modern alluvium mixed with silt and sand that were washed from slopes by wave action or deposited in the sea by meltwater streams.

AG Alluvium and outwash gravel, undifferentiated: occurs as fill areas in stream valleys or abandoned channels above marine limit.

LACUSTRINE DEPOSITS: materials deposited in glacial lakes ponded on the glacial deposits modified by lacustrine processes.

Ln Nearshore sediments: generally well sorted sand, gravel, cobbles, or boulders deposited as beaches, bars, spits, and ice-pushed ridges.

Ld Deltaic sediments: sand, pebbly sand and gravel deposited in their former positions in nonglacial streams and subsequently abandoned as glacial lakes drained.

MARINE DEPOSITS: materials deposited in the Tyrrell Sea and glacial deposits modified by marine processes.

Md Deltaic sediments: sand, pebbly sand, and gravel deposited in the Tyrrell Sea by glacial or nonglacial streams.

Mn Nearshore sediments: generally well sorted sand, gravel, cobbles, or boulders deposited as beaches, bars, spits, and ice-pushed ridges.

Mw Offlap sediments: thin sheet of sand deposited by a migrating shoreline, probably a lag deposit, consisting of marine clayey sand or silty sand or glacial till.

Mq Offshore sediments: clay-rich and silty sand deposited in a deep water environment; may occur anywhere below marine limit but distribution is patchy above 60 m a.s.l.; thickest deposits generally occur in major river valleys with major eskers.

Mm Mm: prominent striped pattern on airphotos. Most mottled patterns on airphotos.

CLACIOPOLYVIAL DEPOSITS: water-sorted sediments deposited in, around, or near a glacier lapped in the Tyrrell Sea.

GK Ice contact stratified drift: sand and gravel deposited near ice margins in, over, or around ice or in ice tunnels, commonly as more or less isolated hummocky deposits of uncertain origin.

de Outwash: sand, gravel, and silt with terraced, hummocky, and level surfaces; includes: 1) sand and gravel deposited by subaerial meltwater streams, commonly on a lag level or level of proglacial lakes; includes 1) sediment deposited between the outer ridge and valleysides, commonly over stagnant ice that forms temporary flow channels; 2) outwash plain; and 3) materials on the floor or at the mouth of meltwater channels.

Oh Disintegration moraine: till, sand, and gravel, undifferentiated; occurs as short ridges or hummocks, probably deposited in holes and crevasses in stagnant ice; ridge orientation may form a reticulate pattern.

TILL DEPOSITS: Poorly sorted sediments with distinctive forms deposited directly by glacial ice.

Tp Till plain: generally sandy, silty, or clayey; may include areas of clay-rich red till.

Ts Striped till: prominent striped pattern on airphotos.

Ty Ribbed (Rogen) moraine: generally bouldery till, in places sand and gravel, forming hummocks and ridges; may be laterally extensive and generally less than 1 km long and 2 to 10 m high; ridges are oriented in the direction of ice flow and form trains parallel to direction of ice flow.

Th Hummocky till: till without significant boulder cover occurring as low, rounded hummocks; includes ridges of till that are continuous laterally and may be formed in association with subaerial meltwater channels.

Tm Till and marine silt, undifferentiated: till-covered landforms blanketed by marine sediments or marine deposits in depressions among till landforms.

ROCK PRE-QUATERNARY

R Precambrian intrusive igneous and metamorphic rocks, red volcanic rocks, and surface comprises more than 80% outcrop.

Geological boundary x

Small bedrock outcrop x

Drumlin or fluting x

Crag and tail (direction of ice flow known) x

Glacial striae (direction of ice movement known, unknown location of measurement at centre of staff, older striation drawn with broken staff) x

Linear feature related to ice flow x

Trend of ribbed or minor moraine ridges x

De Geer moraine: straight, approximately 2 m high end moraine ridges built parallel to an ice front; possibly deposited annually by flowing ice submerged in a sea or lake x

Hummocky moraine x

Esker: projected beneath water surfaces where known x

Meltwater channel: steep-sided channel commonly cut in bedrock or till x

Limit of marine submergence x

Trend of nearshore ridges originating as beaches, bars, and ice-shoved ridges x

Escarpment: generally in unconsolidated sediments x

Area of ridges formed by pack-ice shove x

Permanently drained postglacial lake basin: may include deposits of silty sediment with up to 15% organic carbon x

Turbid lake: contains continual load of suspended sediment during ice-free periods; rarely occurs above marine limit and indicates instability or alteration of the active layer due to wave washing or solifluction processes x

Solian deposit: commonly formed where ice shove or bank failures have disrupted the vegetation mat over alluvial sand x

Radiocarbon date x

Geology by J.M. Aylsworth and M.D. Clarke, based on airphoto interpretation (Striae measurements by J.G. Fyles, R.C. Shields, and J.A. Fraser, 1954)

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

Base map, enlarged from 1:250 000 scale, published by the Survey and Mapping Branch in 1987.

Copies of this map may be obtained from the Canadian Map Office, Department of Energy, Mines and Resources, Ottawa K1A 0S5.

Mean magnetic declination 1989, 3°31' East, decreasing 13.9' annually. Readings vary from 0°05' in the SW corner to 0°38' in the NE corner of the map area.

The proximity of the North Magnetic Pole causes the magnetic compass to be erratic in this area.

Elevations in feet above mean sea level

DESCRIPTIVE NOTES

During deglaciation the ice front retreated eastward towards the Kewatin Ice Divide, damming a large glacial lake in the Thelon River valley and Beverly Lake basin. A series of high level shorelines records a maximum lake level of 220 m in the west, dropping to 210 m in the east of this map area; shorelines continued to lower as progressively lower, northward draining, outlets became ice free. When the ice dam was breached, marine waters inundated the basin to some undetermined depth. As it is impossible to differentiate between marine and lacustrine sands, in the absence of shells, and as shells were only found at one location, at 110 m, the elevation of 120 m was arbitrarily selected to separate the lower marine deposits from the higher lacustrine beaches.



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