

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

- SURFICIAL DEPOSITS**
- NONGLACIAL ENVIRONMENT**
- ALluvIAL DEPOSITS:** stream-deposited material within modern active drainage systems. "modern" is defined as the period since retreat of the sea, proglacial lakes, or glacial ice.
- Ac** Alluvium: silt, sand, and gravel deposited in channels and on floodplains; may include alluvial terraces formed as streams cut to present level in glacial and marine sediments.
  - Ad** Deltaic sediments: sand, gravel, and boulders deposited where modern streams enter lakes or Hudson Bay.
- NONGLACIAL AND GLACIAL ENVIRONMENT**
- MARINE DEPOSITS:** materials deposited in the Tyrrell Sea and glacial deposits modified by marine processes.
- Mp** Coastal plain-tidal flat sediments: complex of poorly sorted sandy silt and sand with pockets of sorted nearshore sand and gravel, which may be marine clayey silt; probably a still plain levelled by tilting of nearshore sand and siltation by wave action during emergence.
  - Mw** Offlap sediments: thin sheet of sand deposited by a migrating shoreline; thought to be a lag developed by wave reworking of marine clayey sand or silty sand, generally associated with **Mp**.
  - Md** Deltaic sediments: sand, silt, and gravel deposited in the Tyrrell. See 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.
  - Mt** Offshore sediments: clay-silt and silty sand deposited in a deep water environment; distribution is patchy above 40 m. Tilted deposits generally are found in major river valleys or valleys with major estuaries. **Mt** prominent striped pattern on airphotos; **Mt** mottled pattern on airphotos.
  - Am** Alluvium and marine sand or silt, undifferentiated: flat area consisting of modern alluvium mixed with silt and sand that was washed from rivers by wave action or deposited in the sea by meltwater streams.
  - Ab** Alluvium and outwash gravel, undifferentiated: flat area occurring in stream valleys or abandoned channels above marine limit.
  - Tm** Till and marine silt, undifferentiated: silt-covered landforms blanketed by marine sediments.
- GLACIAL ENVIRONMENT**
- GLACIOFLUVIAL DEPOSITS:** water-sorted sediments deposited by, around, or near a glacier; largely as a result of meltwater stream flow.
- Qk** Ice-contact stratified drift: sand and gravel deposited near ice margins in, over, or around ice or in ice tunnels; commonly as eskers but includes isolated hummocky deposits of uncertain origin.
  - Qe** Esker and outwash: sand, gravel, and silt with terraced, hummocky, and knotted surfaces.
  - Qd** Outwash: sand and gravel deposited by subglacial meltwater streams exiting from an esker tunnel and flowing between the esker ridge and valley floor in areas above marine limit. Includes outwash fans and materials on the floor or in the reach of meltwater channels.
  - Qc** Till: silt, sand, and fine gravel; same origin as until **Go** but represents distal fine sediment subsiding from an esker tunnel into the sea.
  - Qh** Disintegration moraine: till, sand, and gravel, undifferentiated; occurs as short ridges or hummocks; thought to be deposited in holes and crevasses in stagnant ice; ridge orientation may form a reticulate pattern.
  - Tll** Till: poorly sorted sediments with distinctive form deposited directly by glacial ice.
  - Yp** Till plain: generally sandy, silty, non-clayey silt with 40% per cent clay-sized particles; includes areas of clay-rich red silt. To prominent striped pattern on airphotos.
  - Ys** Ribbed (Rogen) moraine: generally bouldery till, in places sand and gravel, forming hummocks and stripes to thousand ridges; generally less than 1 km long and 2 to 10 m high; ridges generally oriented at right angles to and form transverse to direction of ice flow.
  - Yh** Hummocky till: till without significant boulder cover occurring as hummocks; includes ridges of till that are eroded and moraines or erosion remnants between subparallel meltwater channels.
- ROCK**
- P** Precambrian intrusive igneous and metamorphic rocks, red volcanic rocks, and unmetamorphosed sediments.
- R** Surface comprises more than 80 per cent outcrop.
- W** Surface comprises 20 to 80 per cent outcrop or bedrock is mottled with an average of less than 1 m of the surficial deposit indicated.

- Symbols**
- Small bedrock outcrop
  - Drain or fluting (direction of ice flow known, unknown)
  - Crag and tail (direction of ice flow known)
  - Linear feature related to ice flow but obscured by solifluction processes, water-laid deposits, wave reworking, or trees
  - Glacial striae (direction of ice movement known, unknown)
  - Location of movement at centre of striae; older striae dried with breaks staff
  - Trend of ribbed or minor moraine ridges
  - Hummocky moraine
  - Deeper moraines, straight, approximately 2 m high and moraine ridges built parallel to an ice front, possibly deposited annually by flowing ice submerged in a sea or lake
  - Area of ridges formed by pack-ice shove
  - Trend of nearshore marine ridges originating as beaches, bars, escurtopes, and ice-thewed ridges
  - Esker (direction of flow known, unknown); may be confused with or obscured by nearshore features; projected beneath water surfaces where known or inferred
  - Meltwater channel; steep-sided channel commonly cut in bedrock or till
  - Permanently drained postglacial lake basins; may include deposits of till deposited within 10 to 15 per cent organic carbon
  - 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
  - Limit of marine submergence
  - Escarpment; generally in unconsolidated sediments
  - Palustrine features
  - Colluvial deposits; commonly formed where ice shove or bank failures have disrupted the vegetation mat over alluvial silt
  - Geological boundary
  - Radiocarbon date

Geology by J.M. Buwalda, A.N. Boydell, and R.H. Smith, based mainly on airphoto interpretation with ground checking, 1973

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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 Mapping and Charting Directorate, Department of National Defence in 1967

Copies of the topographical edition of this map may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, K1A 0S1

Main magnetic declination 1983: 702.0' west decreasing 7.4' annually; readings vary from 625.0' in the SW corner to 1015' in the NE corner of this map area

Elevations in feet above mean sea level

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MAP 10-1980  
 SURFICIAL GEOLOGY  
**MARBLE ISLAND**  
 DISTRICT OF KEEWATIN

Scale 1:125,000

Universal Transverse Mercator Projection  
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 DISTRICT OF KEEWATIN