



GEOLOGICAL SURVEY OF CANADA  
DEPARTMENT OF ENERGY, MINES AND REVENUE

Genetic Category	Material	Terrain Unit	Description
7	Alluvium	7	Alluvium fluvial silt, sand, and gravel deposited in channels and on flood plains.
			Alluvium organic-rich lake sediments and nearshore lacustrine deposits, undifferentiated. Mapped where lake level permanently lowered or where permanently drained lake basins identified; many areas mapped as 7m may include significant amounts of this unit, may or may not have periglacial features similar to 7m, depending on length of subaerial exposure. Vegetation usually grasses and sedges.
		7m	Undifferentiated alluvium and sand or silt washed by waves from valley sides or slopes during isotatic emergence from sea. Unit occurs only below 550 ± 10 feet a.s.l. Surface generally covered with 40 cm to 20 m of fibrous peat on which grasses, sedges and mosses grow. Maximum active-layer thickness averages 15 to 20 cm. Characteristically has tundra, polygons with vertical ice wedges, numerous flow ponds, beaded drainage.
		7o	Alluvium and outwash gravel, undifferentiated. Occurs only above 550 ± 10 feet a.s.l. Surface features similar to 7m.
6	Wave reworked glacial and marine sediments	6	Coastal Plain Sediments: reworked glacial and marine sediments below 20 m (60 feet) a.s.l. Dense cover of shallow ponds includes areas of all other map units that are so reworked or so small that they are undifferentiated; surface vegetation and periglacial features variable.
5	Nearshore marine boulders, sand, and gravel.	5	Nearshore sediments Generally well-sorted (poorly graded) sand, gravel, cobbles, or boulders deposited as beaches, bars, spits, ice-rafted ridges, etc. at or near Tyrrell Sea shorelines. Textures are variable and unpredictable except by ground checking of individual deposits. Surfaces are sparsely vegetated with orthogonal frost cracks.
		5D	Marine detrital sand, pebbly sand and gravel built by non-glacial streams into Tyrrell Sea or modern Hudson Bay. Raised or older surface characterized by sparse vegetation and polygonal frost cracks.
4	Offshore marine clayey silt	4	Marine clayey silt, silty sand deposited in offshore environments may occur anywhere below 550 ± 10 feet but distribution is patchy above 200 feet a.s.l.; although observed at numerous places on the ground units of map scale are mostly inferred. Positive differentiation from till can only be done by detailed ground checking. Surface vegetation dominantly shrubs in turf circles around mudboils.
		4s	Marine clayey silt or silty sand with prominent striped pattern (see description under 1s).
		4w	Wave-reworked marine clayey silt or silty sand occurring mainly on coastal plain (6). Thought to be a thin, sheet-sand deposit formed by migrating (and liquid) shoreline and disrupted into mottled pattern by periglacial processes or by gullying in the tidal zone.
		4m	Marine clayey silt or silty sand with mottled appearance; dark nodules are about mud-boil covered, 3-10 m-diameter, 0.5 m-high mounds surrounded by grass-sedge (light-colored) vegetation. Thought to be areas of high ice-content in marine sediment.
3	Till and/or gravel occurring in ridges or hummocks	3	Minor moraines Ribbed moraine: mrow moraines with hummocky to ribbed appearance; thought to represent shore plates of till deposited one on the back of another. Two to four metre-high ridges are symmetric with steep faces consistently down-ice. Surfaces have little vegetation, generally heavy cover of large boulders, and rare mudboils and/or frost cracks.
		3A	Minor till moraine: Hummocks or transverse ridges formed near the ice front or under ice. They are rarely found together. Their dimensions and forms are similar to 3 but some may be ridges separating subparallel meltwater channels while others are apparently constructional features. Surfaces are characterized by mudboils surrounded by shrub vegetation.
		3B	Disintegration moraine: Till and sand-gravel, undifferentiated, occurring in short ridges and hummocks similar in scale to 3, 3A. Thought to be deposited in holes and crevasses in stagnant glacier ice (mapped only near Rosebladi Lake 63H).
2	Ice-contact sand and/or gravel	2	Ice contact stratified drift: Glaciofluvial sand and gravel deposited near ice margin in, over, or around ice. Most common example is esker ridge which may be beaded or interrupted at irregular intervals by major ridges representing slow-down in ice retreat with detrital or submarine fan deposition in sea. Surface is very sparsely vegetated with lichens and grasses and is cut by orthogonal frost cracks where linear, tundra polygons occur.
		2m	Marine esker pad sediments: Silt, sand and fine gravel deposited in depressions between esker ridges and adjacent valley sides. Represents distal fine sediment debouching from esker channel mouth into sea. Probably much 7 m mapped adjacent to eskers should be 2 m, but differentiation is difficult without stratigraphic sections. Surface vegetation is sedge-grass, carbon mats growing on thin fibrous peaty surface is characterized by flow ponds and tundra polygons.
		2o	Esker pad outwash: sand and gravel deposited by subaerial meltwater streams exiting esker tunnel mouth and flowing in depressions between esker ridge and valley sides. Deposition is truncated hummocky with kettle lakes. Typically sparsely vegetated; fluvial eskers above marine limit.
1	Till	1	Till: sandy silty till with 41 to 29% clay-sized particles. Till has liquid limits of 51 to 108, plasticity index of 41 to 83. High natural moisture contents make it liable to heave under loading or periods of increased moisture (heavy rains, early thaw season). Till is non-calcareous, grey over most of area but a strip of red, clay-rich till trends southeastward from the northeast corner of the Kamunik sheet to Eskimo Point; this red till is separated from the rest of the till by a strip pass approximately through Hoppoysik and Turgeon Lakes respectively. Surface is vegetated by shrubs, moss and grass growing in elevated peaty rings around 1 to 2 metre-diameter mudboils. Under lakes till is characterized by cobble-covered, 2 metre-wide ribs separated by boulder-filled, 2 metre-wide troughs, trending down slope to water depths of about 2 m.
		1s	Striped Till: Till with pronounced striped pattern; dark and light stripes are due to vegetation differences on grounds each stripe tends to run directly down-ice; average width of the stripes is 10 to 20 metres. The prominence of the striped pattern is thought to be related directly to the amount of movement (stability) associated with the active layer. The clay-rich red till has very prominent stripes; stripes are also prominent where fine-grained marine sediment is thought to be mixed with till.
R	Bedrock	R	Bedrock: Indicates areas where bedrock outcrops comprise more than 80% of the surface. Vegetation is very sparse and surface may be glacially rounded or covered by talus.
		R/L, R/X	Bedrock: Indicates that outcrop makes up 20 to 80% of the surface or that bedrock is mantled with an average of less than 1 metre of unconsolidated sediments, the probable nature of which is indicated by the symbol to the right of the "R/L" or "R/X".

- Symbols**
- Drumlin or fluting
  - Linear feature related to ice flow, but obscured by solifluction processes water-laid deposits, wave reworking, or trees
  - Ridged minor moraines with ridges perpendicular to ice-flow direction (3), roughly parallel to ice front (3A), or roughly parallel to ice front or crevasse patterns in stagnant ice (3B).
  - Hummocky minor moraine - can be 3, 3A, or 3B
  - DeGeer moraines, straight, 52m high end-moraine ridges built parallel to an ice front related to actively flowing ice.
  - Esker ridge, may be confused with or obscured by nearshore marine features (5) in places; projected beneath water surfaces where known or inferred.
  - Meltwater channels: steep-sided channels usually cut in bedrock.
  - Trends of nearshore marine ridges originating as beaches, bars, megaripples, ice-rafted ridges, etc.
  - Areas of pack ice shove that forms ridges.
  - Turbid lakes; lakes containing continual load of suspended sediment during ice-free periods; these occur almost exclusively below marine limit and indicate instability or alteration of the active layer due to wave washing or solifluction processes.
  - Permanently drained lake basin
  - Isolated outcrop too small to show at map scale.
  - Limit of marine submergence, haichurs point of failure.
  - Pingo-like features (PLP's) on coastal plain.
  - Prominent escarpment largely underlain by unconsolidated sediments.

OPEN FILE

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DOSSIER FICHIER  
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GEOLOGICAL SURVEY  
COMMISSION GEOLOGIQUE  
OTTAWA

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SURFICIAL GEOLOGY  
OF  
ESKIMO POINT

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