



LEGEND

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

SURFICIAL GEOLOGY

SURFICIAL DEPOSITS QUATERNARY

- Ac** Alluvium: silt, sand, and gravel deposited in channels and on floodplains; may include alluvium in terraces which formed as streams 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 as flat 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 flat areas in stream valleys or abandoned channels above marine limit
- 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 glacial lakes by glacial or nonglacial streams; subsequently abandoned as glacial lakes drained
- 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 developed by wave reworking of marine clayey sand or silty sand or glacial till
- Mq** Offshore sediments: clay, silt 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 or valleys with major eskers
- Ms Mm** Ms, prominent striped pattern on airphotos. Mm, mottled pattern on airphotos

- GK** 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
- Go Gq** Outwash: sand, gravel, and silt with terraced, hummocky, and kettled surfaces. Go, sand and gravel deposited by subaerial meltwater streams in areas above local sea level or level of proglacial lakes; includes 1) sediment deposited between the esker ridge and valleysides, commonly over stagnant ice that forms temporary floor, 2) outwash fans, 3) outwash plains, and 4) materials on the floor or at the mouth of meltwater channels. Gq, silt, sand, and fine gravel; distal fine sediment debouching from the subaqueous mouth of an ice tunnel; material settled preferentially in depressions between the esker ridge and valleysides
- Gh** 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

- TP Ts** Till plain: generally sandy, silty, noncalcareous grey till; includes areas of clay-rich red till. Ts, prominent striped pattern on airphotos

- Tr** Ribbed (Rogen) moraine: generally bouldery till, in places sand and gravel, forming hummocks and straight to sinuous ridges, generally less than 1 km long and 2 to 10 m high; ridges generally oriented at right angles 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 minor end moraines or erosion remnants between subparallel meltwater channels

- TM** Till and marine silt, undifferentiated: till-cored landforms blanketed by marine sediments or marine deposits in depressions among till landforms

- R** Surface comprises more than 80% outcrop

- R/T R/Ti** Surface comprises 20 to 80% outcrop, or bedrock is blanketed with an average of less than 1 m of the surficial deposit indicated

NOTES

Surface generally covered by fibrous peat on which mosses, sedges, and grasses grow. Surface characterized by frost polygons and thaw ponds related to vertical ice wedges extending to a depth of 2 to 3 m

Surface characterized by sparse vegetation and orthogonal frost cracks

Surface characterized by sparse vegetation and polygonal frost cracks

Surface characterized by sparse vegetation and orthogonal frost cracks

Surface characterized by sparse vegetation and orthogonal frost cracks

Characterized in places by a surface mottled pattern resulting from periglacial processes or gullying by streams or tidal currents

Difficult to differentiate on airphotos from units Tp and Ts. Surface vegetation is dominantly shrubs in turf circles around mudboils. Striped pattern (Ms) consists of dark and light stripes, 10 to 20 m wide, running downslope, and reflects vegetation differences. Mottled pattern (Mm) due to shrub- and mudboil-covered mounds, 5 to 10 m in diameter and less than 0.5 m high, surrounded by light coloured grass-sedge vegetation; likely has high ground ice content.

GLACIOFLUVIAL DEPOSITS: water-sorted sediments deposited in, around, or near a glacier, largely as a result of meltwater flow

Many eskers are beaded or interrupted at irregular intervals by major bulges marking positions where deltaic or subaqueous fan deposition occurred during periods of slowed ice retreat

Sparingly vegetated.

Vegetation is commonly sedge, grass, and moss growing on thin, fibrous peat. Surface characterized by thaw ponds and tundra polygons. Difficult to differentiate from unit AM

Sparingly vegetated. Periglacial features vary from mudboils in till to frost cracks in sorted sediments

Surface characterized by 1-2 m diameter patches of bare or lichen-covered mud (mudboils) surrounded by elevated peaty rings on which grow shrubs, mosses, and grasses. At lake margins characterized by cobble-covered, 2 m wide ribs separated by 2 m wide boulder-filled troughs, generally trending downslope to a water depth of about 2 m. Striped pattern (Ts) thought to be due to solifluction of clay-rich till

Individual ribs may be asymmetric in cross-section with steep side facing down-ice; trains of ribs pass laterally into drumlin fields and may be drumlinized in the transition zone. Surfaces have sparse vegetation and generally a heavy cover of large boulders and mudboils where composed of till, and marked by frost cracks where composed of gravel

Extensive areas are present in the region of the Keewatin Ice Divide and in some places adjacent to areas of ribbed moraine (Tr). Exact origin unknown; may have formed in association with stagnant ice and in some places from erosion of till surfaces by streams in anastomosing meltwater channels. Vegetation and periglacial features similar to those on till plain (Tp)

Precambrian intrusive igneous and metamorphosed rocks, red volcanic rocks, and unmetamorphosed sediments

Vegetation sparse, surface may be glacially rounded or covered by felsenmeer

- Geological boundary
- Small bedrock outcrop
- Drumlin or fluting
- Crag and tail (direction of ice flow known)
- Glacial striae (direction of ice movement known, unknown) location of measurement at centre of staff; older striation drawn with broken staff
- Linear feature related to ice flow
- Trend of ribbed or minor moraine ridges
- De Geer moraines: 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
- Hummocky moraine
- Esker: projected beneath water surfaces where known
- Meltwater channel; steep-sided channel commonly cut in bedrock or till
- Limit of marine submergence
- Trend of nearshore ridges originating as beaches, bars, and ice-shoved ridges
- Escarpment; generally in unconsolidated sediments
- Area of ridges formed by pack-ice shove
- Permanently drained postglacial lake basin; may include deposits of silty sediment with up to 15% 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
- Eolian deposits; commonly formed where ice shove or bank failures have disrupted the vegetation mat over alluvial sand
- Radiocarbon date

Geology by J.M. Aylsworth, based on airphoto interpretation

Thematic information on this map is reproduced directly from author's copy

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

Base map at the same scale published by the Army Survey Establishment, R.C.E., 1956

Copies of the topographical edition of this map may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa K1O 0E9

The proximity of the North Magnetic Pole causes the magnetic compass to be erratic in this area. Mean magnetic declination 1990, 13°11' West, increasing 2.5' annually. Readings vary from 9°41' W in the SW corner to 16°52' W in the NE corner of the map area

Elevations in feet above mean sea level

45-1989 (C.2)

G3401-C5

1978

G4

0mvfc

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ESIC CIST
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MAP 45-1989
SURFICIAL GEOLOGY
ARMIT LAKE
DISTRICT OF KEEWATIN
NORTHWEST TERRITORIES

Scale 1:250 000 - Échelle 1/250 000

Universal Transverse Mercator Projection / Projection transverse universelle de Mercator

65C	68B	68A	68D	68C	68B
43-1989	44-1989	43-1989	3-1989	46-1989	45-1989
67B	65-D	66P	66M	66N	55-G
38-1989	35-1989	38-1989	11-1989	1-1984	1-1985
69K	65J	65-I	56L	55K	65A
4-1985	37-1989	2-1979	7-1979	9-1980	10-1980
PROJECT AREA					
65P	65Q	65H	55E	56P	56Q
39-1989	1-1988	2-1985	8-1980	9-1979	
65C	65B	65A	55D	55C	55B
5-1985	9-1985	8-1979			

