

LEGEND Note: some map units and symbols shown in the legend may not appear on this map SURFICIAL DEPOSITS QUATERNARY 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 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 Deltaic sediments: sand, gravel, and boulders deposited where modern streams enter lakes or Alluvium and marine sand or silt, Surface generally covered by 40 cm to more than undifferentiated: occurs as flat areas consisting 1 m of fibrous peat on which mosses, sedges, and of modern alluvium mixed with silt and sand that grasses grow. Maximum active layer 15 to was washed from slopes by wave action or 50 cm deep. Surface characterized by frost deposited in the sea by meltwater streams. polygons and thaw ponds related to vertical ice wedges extending to a depth of 2 to 3 m comprises 20 to 80% bedrock outcrop Alluvium and outwash gravel, undifferentiated: Surface generally covered by 40 cm to more than occurs as flat areas in stream valleys or 1 m of fibrous peat on which mosses, sedges, and abandoned channels above marine limit
R/AG, deposit veneers bedrock or surface comprises 20 to 80% bedrock outcrop

R/AG, deposit veneers bedrock or surface wedges extending to a depth of 2 to 3 m LACUSTRINE DEPOSITS: materials deposited in glacial lakes ponded on the western side of the Keewatin Ice Divide, and glacial deposits modified by lacustrine processes Nearshore sediments: generally well sorted sand, gravel, cobbles, or boulders deposited as beaches, bars, spits, and ice-pushed ridges

Surface characterized by sparse vegetation and orthogonal frost cracks MARINE DEPOSITS: materials deposited in the Tyrrell Sea and glacial deposits modified by marine processes Deltaic sediments: sand, pebbly sand, and gravel deposited in the Tyrrell Sea by glacial or polygonal frost cracks Mn R/Mn Nearshore sediments: generally well sorted sand, gravel, cobbles, or boulders deposited as beaches, bars, spits, and ice-pushed ridges. R/Mn, deposit veneers bedrock or surface comprises 20 to 80% bedrock outcrop Offlap sediments: thin sheet of sand deposited by a migrating shoreline; probably a lag developed by wave reworking of marine clayey

Characterized in places by a mottled pattern resulting from periglacial processes or gullying by streams or tidal currents sand or silty sand or glacial till Offshore sediments: clay-silt and silty sand deposited in a deep water environment; may occur anywhere below marine limit but Difficult to differentiate on airphotos from units Tp and Ts. Surface vegetation is dominantly shrubs in turf circles around mudboils. Striped distribution is patchy above 60 m a.s.l.; thickest pattern (Ms) consists of dark and light stripes, 10 deposits generally occur in major river valleys or to 20 m wide, running downslope, and reflects vegetation differences. Mottled pattern (Mm) valleys with major eskers R/Mq, deposit veneers bedrock or surface due to shrub- and mudboil-covered mounds, 5 to comprises 20 to 80% bedrock outcrop 10 m in diameter and less than 0.5 m high, Ms, prominent striped pattern on airphotos: surrounded by light coloured grass-sedge GLACIOFLUVIAL DEPOSITS: water-sorted sediments deposited in, around, or near a glacier, largely as a result of meltwater stream flow 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 deposition took place during periods of slowed Outwash: sand, gravel, and silt with terraced, hummocky, and kettled surfaces Go, sand and gravel deposited by subaerial Sparsely vegetated 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 Vegetation is commonly sedge, grass, and moss sediment debouching from the subaqueous mouth of an ice tunnel; material settled preferentially in depressions between the esker ridge and valleysides

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 Disintegration moraine: till, sand, and gravel, undifferentiated; occurs as short ridges or hummocks, probably deposited in holes and sediments crevasses in stagnant ice; ridge orientation may form a reticulate pattern TILL DEPOSITS: poorly sorted sediments with distinctive forms deposited directly by glacial Till plain: generally sandy, silty, noncalcareous Till has liquid limits of 8 to 18% and plasticity grey till with <25% clay sized particles; includes indices of 0 to 8%. Susceptible to !iquefaction areas of clay-rich red till under loading or during periods of increased moisture (heavy rains, spring thaw). At lake margins characterized by cobble-covered, 2 m-Ts, prominent striped pattern on airphotos wide ribs separated by 2 m-wide boulder-filled troughs, generally trending downslope to a water depth of about 2 m. Shrubs, mosses, and grasses grow in elevated peaty rings around 1 to 2 mdiameter patches of bare or lichen-covered mud (mudboils). Striped pattern (Ts) prominent on clay-rich red till. Vegetation and minor periglacial features similar to those on till plains and marine muds 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 R/Tr, deposit veneers bedrock or surface comprises 20 to 80% bedrock outcrop

Individual ribs may be asymmetric in cross-section with steep side facing down-ice; trains of ribs pass laterally into drumlin fields and are commonly drumlinized in the transition zone. Surfaces have sparse vegetation and generally a heavy cover of large boulders and mudboils where composed of till, and are marked by frost cracks where composed of gravel Hummocky till: till without significant boulder cover occurring as hummocks; includes ridges of till that are minor end moraines or erosion remnants between subparallel meltwater channels

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) Till and marine silt, undifferentiated: till-cored Based solely on airphoto interpretation landforms blanketed by marine sediments or marine deposits in depressions among till ROCK PRE-QUATERNARY Precambrian intrusive igneous and metamorphic rocks, red volcanic rocks, and unmetamorphosed Surface comprises more than 80% outcrop. Vegetation sparse, surface may be glacially rounded or covered by felsenmeer Surface comprises 20 to 80% outcrop, or bedrock is mantled with an average of less than 1 m of the surficial deposit indicated

Geological boundary ... Small bedrock outcrop . Drumlin or fluting (direction of ice flow known, unknown) 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 but obscured by solifluction processes, water-laid deposits, wave reworking, or trees Trend of ribbed or minor moraine ridges ... DeGeer 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 (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 Limit of marine submergence . Trend of nearshore ridges originating as beaches, bars, megaripples, 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 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, 1983-84

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Colour separation by camera of hand coloured manuscript

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

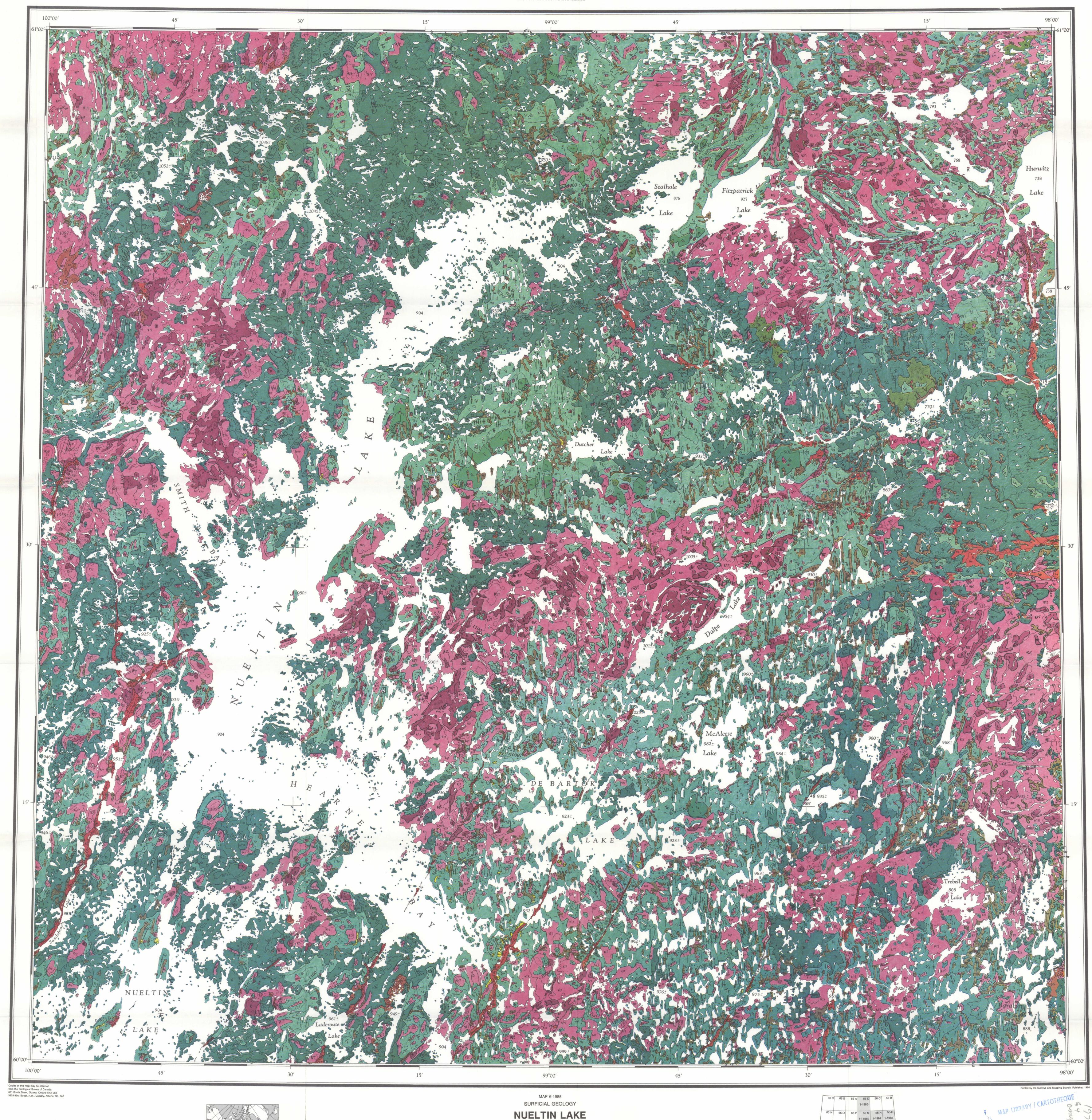
Base map, enlarged from 1:250 000 scale, published by the Mapping and Charting Establishment, Department of National Defence in 1966

Copies of the topographical edition of this map may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, K1A 0E9

Mean magnetic declination 1985, 9°42' East, decreasing 19' annually. Readings vary from 11°54' in the SW corner to 7°27' in the NE corner of the map area

Elevations in feet above mean sea level

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Geological Survey of Canada,
Map 6-1985, scale 1:125 000



DISTRICT OF KEEWATIN

NORTHWEST TERRITORIES

Scale 1:125 000

Universal Transverse Mercator Projection

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MAP 6-1985

NUELTIN LAKE

DISTRICT OF KEEWATIN
NORTHWEST TERRITORIES