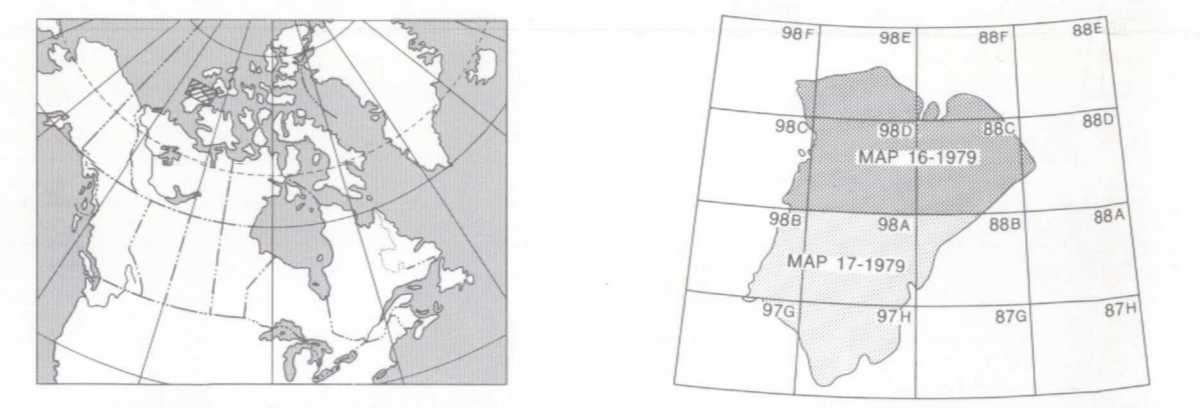
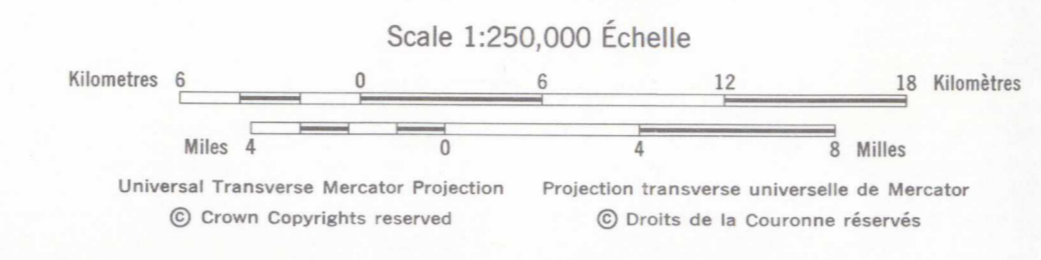


MAP 16-1979 CARTE
SURFICIAL GEOLOGY - GÉOLOGIE DES DÉPÔTS MEUBLES
BANKS ISLAND - ÎLE BANKS
NORTH HALF - PARTIE NORD
NORTHWEST TERRITORIES - TERRITOIRES DU NORD-OUEST



- Approximate geological boundary.....
- List of ice advance and/or still deposition (defined, assumed).....
- Area of hummocky surface.....
- Shallow, broad-based ridges, flat-tops.....
- Spirals (ice flow direction known, unknown).....
- Marine ridge.....
- Ice thrust bedrock ridge.....
- Esker (direction of flow known or assumed, unknown).....
- Sedimentary ridge.....
- Ice-thrust bedrock ridge.....
- Water channel (major; minor; flow direction known or assumed, unknown).....
- Glacial lake outlet.....
- Recessed marine beach.....
- Active coastal escarpment.....
- Fluvial terrace scarp.....
- Fluvial or estuarine fan.....
- Extensively dissected area commonly resulting in headland topography.....
- Water-logged area of organic accumulation.....
- Pings.....
- Active thermoharst backstepping slope.....
- Shallow gravel pits.....
- Exploratory oil and gas well drilling site.....
- Location of stratigraphic section of special interest..... usually with buried organics.....
- Fossil animal locality (marine, terrestrial).....
- Limit of submergence (later labelled as marine or Pleistocene/Quaternary event).....

- Seas: A Big Sea, B Mack Point Sea, C Schuyler Point Sea, D East Coast Sea
- Glacial Lakes: K Lake Ogline, L Lake Starbom, M Lake Parker, N Lake Disposition, O Lake Irtirua, P Lake Sarfarvaak, Q Lake Mesh, R Lake Refua, S Lake Carwell, T Lake De Sells, U Lake Sarfarvaak

Geological information on this map is reproduced directly from author's copy. Any revisions or additional geological information known to the user must be indicated by the Geological Survey of Canada. Base-map assembled by the Geological Survey of Canada from topographic maps published at the same scale by Survey and Mapping Branch in 1965-66. Geographical names subject to revision. Names in quotation marks are unofficial. Approximate magnetic declination 1979, 59°32' P.E. decreasing 16.5" annually. Contour interval 100 feet.

- QUATERNARY
- FLUVIAL DEPOSITS: 9 FLUVIAL SEDIMENTS: stratified gravel, sand, and silt deposited by rivers; modern floodplains and terraces
- DELTAIC DEPOSITS: 10 DELTAIC SEDIMENTS: fine sand and silt and disseminated organic matter; deposited or reworked by waves, mainly on fluvial and glaciofluvial terraces
- MARINE AND GLACIOMARINE DEPOSITS: 7a LITTORAL SEDIMENTS: sand and gravel along modern coastline; mainly active beaches and spits
- 7b DELTAIC SEDIMENTS: sand and gravel deposited by glacial meltwater fans and flow embayments of the Mack Point Sea in the northwest
- 7c NEARSHORE AND DELTAIC SEDIMENTS: sand, silt, and clay deposited in shallow waters of the Mack Point Sea on the west coast; of the Investigator Sea on the north coast; except the Schuyler Point Sea on the east coast
- 7d DELTAIC SEDIMENTS: sand and gravel deposited in the Big Sea on the west coast; underlies Jesse Till (unit 3a) but is exposed by erosion
- 7e OFFSHORE AND NEARSHORE SEDIMENTS: mainly bedded silt with minor clay and sand deposited in the Big Sea on the west coast; underlies Jesse Till (unit 3a) but is exposed by erosion and thermoharst activity
- GLACIOFLUVIAL DEPOSITS: 11 GLACIOFLUVIAL SEDIMENTS: stratified sand and gravel deposited by glacial meltwater streams; includes prominent moraine ridges
- 12 OFFSHORE SEDIMENTS: varved silt and clay deposited in glacial lakes Parker, Sarfarvaak, and Baltaak
- 13 GLACIOFLUVIAL SEDIMENTS: stratified sand and gravel deposited at the margin of ice beneath melting glacier lobes
- 14 ICE-CONTACT SEDIMENTS: stratified sand and gravel and minor silt deposited at the margin of ice beneath melting glacier lobes; moraine ridges, eskers, and kames

- 15 MORAINAL SEDIMENTS (THOMSON GLACIATION): silt deposited by the Thomson glacier during its advance and retreat; includes areas of ice-contact deposits; too small to be mapped as separate units; silt plain in most areas
- 16 BAKER TILL: sandy silt deposited in the northern River area by Thomson Glaciation ice
- 17 KELETT TILL: sandy silt deposited in the south-central area by Thomson Glaciation ice
- 18 MORAINAL SEDIMENTS (BANKS GLACIATION): silt deposited by the Banks glacier during its advance and retreat; includes areas of ice-contact deposits; too small to be mapped as separate units; silt plain in most areas
- 19 DUNHAM TILL: clayey silt deposited over the high southern tip of the island during Banks Glaciation
- 20 PLASTON TILL: clayey silt deposited over the northern Plateau of the northward during Banks Glaciation
- 21 BERNARD TILL: clayey silt deposited over extensive areas of the west during Banks Glaciation
- TERTIARY
- MIOCENE: 1b BEAUFORT FORMATION: unstratified fluvial gravel, sand, and silt; locally underlies surface to a flat, fluvially dissected plain in the northwest and north in the west
- PALEOCENE-EOCENE: 1c ESKA FORMATION: cyclic, moderately well-sorted, horizontally bedded, marine and terrestrial sand, silt, clay, and coal; surface is gently undulating and subject to "dune" erosion in some areas
- 1d "Skate" Formation: mainly unstratified, horizontally bedded, nonmarine silt and clay; surface is gently undulating
- CRETACEOUS: 2a KANGARU FORMATION: mainly weakly stratified, marine silt and clay with thin sand and silt and local siltstone lenses with bentonitic beds; surface is generally undulating, and slopes are steep
- LOWER CRETACEOUS: 3a NEARSHORE FORMATION: fine outcrop of horizontally bedded, nearshore marine, glauconitic sand, silt, and clay
- 3b CRESTATION FORMATION: unstratified, horizontally bedded, very fine-grained, marine silt and clay; surface is generally undulating, slopes subject to active layer detachment failures
- 3c FROSTBITE FORMATION: unstratified, horizontally bedded, quartzose, silty sand, silt, and siltstone; surface generally undulating and dissected
- DEVONIAN
- UPPER DEVONIAN: 4a PRE-MERCY BAY MEMBER: horizontally bedded sandstone, siltstone, and shale; fracture fractured and weathered in outcrops; deeply incised by streams
- MIDDLE DEVONIAN: 4b MERCY BAY MEMBER: tabular outcrop of resistant bihermal and biostromal limestone
- NEOHELENIAN-NEODEVONIAN: 5a GLENVILLE FORMATION: sandstone with minor siltstone, shale, and clay; fracture fractured and weathered in outcrops; mostly in talus-slope cliffs to the south

Geology by J.-S. Vincent, 1974-1979. Further reference to the glaciations, glacial lakes, and marine transgressions are found in: Vincent, J.-S., 1976: Limits of ice advance, glacial lakes and marine transgressions on Banks Island, District of Franklin, a preliminary interpretation. In Current Research, Part A, Geological Survey of Canada, Paper 76-1a, p. 53-62. The following references were used to describe and map the pre-Quaternary formations: Embry, A.F., III and Steven, J.E., 1976: The Middle-Upper Devonian clastic wedge of the Franklinian province; Bulletin of Canadian Petroleum Geology, v. 24, p. 488-499. Meall, A.D., 1976: Paleozoic and Paleogene geology of Banks Island, Arctic Canada; Geological Survey of Canada, Bulletin 205, 77 p. 1979: Mesozoic and Tertiary geology of Banks Island, Arctic Canada; in History of an unstable ocean margin; Geological Survey of Canada, Memoir 387, 238 p.



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