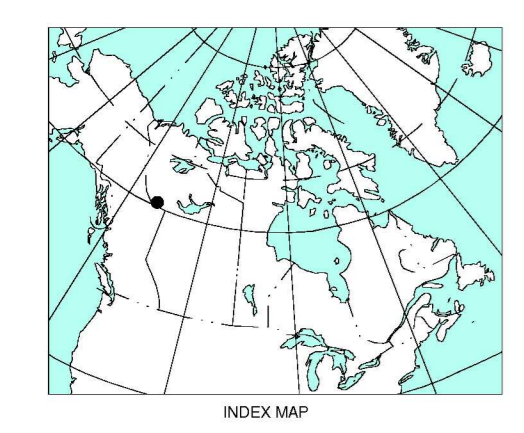


- Coloured legend blocks indicate map units that appear on this map
- QUATERNARY**
SURFICIAL DEPOSITS
- POST LAST GLACIATION**
- NONGLACIAL ENVIRONMENTS**
- ORGANIC DEPOSITS:** peat, 1 to 2 m thick; formed by the accumulation of vegetation in poorly drained depressions (swamps and bogs); produces flat, wet terrain
 - O¹ Bog peat:** Sphagnum or forest peat formed in an ombrotrophic environment, may be treed or treeless with a cover of ericaceous shrubs; hummocky, wet terrain, in places underlain by ground ice, O¹h; kettled topography, O¹k; undifferentiated bog and fen deposits, O¹; undifferentiated hummocky bog and fen deposits, O¹h
 - O² Fen peat:** peat derived from sedges and partially decayed shrubs in a eutrophic environment; forms relatively open peatlands with a mineral rich water table that persists seasonally near the surface; often covered with low shrubs and sometimes a sparse tree cover
 - COLLUVIAL DEPOSITS:** mass wasting debris <100 m thick; unsorted to poorly sorted, massive to stratified debris deposited by direct, gravity-induced movement
 - C Landslide and slump debris:** active and inactive landslides
 - ALLUVIAL DEPOSITS:** sorted gravel, sand, and organic detritus deposited by flowing water
 - A Fluvial deposits:** sorted gravel and sand >1 m thick; forming active flood plains with meander channels and scroll marks, Ap; alluvial fan deposits, poorly sorted gravel and sand >1 m thick, A1; undifferentiated, A
 - Ac Fluvial deposits, channelled:** numerous subparallel alluvial channels covering gentle to moderate slopes
 - At Fluvial deposits, terraced:** low, inactive terraces immediately above active floodplains
 - L¹ LACUSTRINE DEPOSITS:** sand, silt and minor clay deposited in a former lake; generally overlain by organic deposits; exposed by recent fluctuations in lake levels
- POSTGLACIAL OR LATE WISCONSINAN**
- PROGLACIAL AND GLACIAL ENVIRONMENTS**
- GLACIOLACUSTRINE DEPOSITS:** fine sand, silt, and clay, deposited in glacier-dammed lakes in valleys or along margins of the retreating Laurentide Ice Sheet
 - L Glaciolacustrine deposits:** sediment >1 m thick; level topography; usually overlain by organic deposits in lowlands; hummocky topography, Lh
 - G GLACIOFLUVIAL DEPOSITS:** proglacial outwash, gravel and sand with minor diamictites deposited in front of the ice margin, usually 1-10 m thick; forming distal outwash terraces Gt; ice-contact ridges, Gr; undifferentiated, G
 - TILL:** unsorted debris deposited directly by glaciers; matrix is sandy to clayey and contains striated clasts of various lithologies, including many Canadian Shield erratics
 - Tb Till blanket:** >1 m thick; forming undulating topography; contains Canadian Shield erratics; kettled topography, Tbh; extensively fluted and drumlinized till blanket, Td; hummocky moraine, Th; rolling topography, Tm
 - Tr Ridget moraine:** moraines or crevasse fillings forming a ridged topography

- NOTE:** In areas where the surficial cover forms a complex pattern, the area is coloured according to the dominant unit and labelled in descending order of cover; slash between two units indicates that the former unit overlies the latter
- Geological boundary (defined, gradational)
- Beach ridges
- Small swamp or bog
- Landslide (arrow indicates the direction of movement)
- Abandoned meltwater channel or channel occupied by an underfit stream (large, small and direction of flow inferred, small and direction of flow not inferred)
- Esker (low direction inferred)
- Escarpment
- Kettle
- End moraine
- Minor moraine or crevasse filling
- Ice moulded form in till (direction of flow inferred, not inferred; broader forms have middle dots)
- Furrows and troughs related to glacial flow, likely formed subglacially

NOTES ON GLACIAL HISTORY:

Emile Lake map area was glaciated during the Late Wisconsinan glaciation (ca. 25 000-10 000 years ago) when the continental Laurentide Ice Sheet flowed over the area from the northeast. The area was deglaciated prior to ca. 12 ka BP and several end moraines and numerous crevasse fillings record the progressive northeastern retreat of the ice margin. During this time, the area was flooded by glacial Lake Liard because Liard River drainage into the Mackenzie River was blocked by the Laurentide Ice Sheet. Consequently, much of the glacial material is mantled by glaciolacustrine sediments. In places, glaciofluvial terraces and deltas were deposited into the receding lake. Bog areas in the eastern parts of the map area contain discontinuous permafrost and peat bogs, plateaus and thermokarst features are common.



CONTOUR INTERVAL, 50 FEET
Elevations in Feet above Mean Sea Level

Digital Topographic Data provided by Geomatics Canada, Natural Resources Canada and adjusted to conform to LandSat GeoCover image by the author

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SURFICIAL GEOLOGY
EMILE LAKE
NORTHWEST TERRITORIES

Scale 1:50 000 Échelle
kilometres 1 0 1 2 3 4 5 kilometres

Geology by J. Bednarski, 2000, 2001, 2002
Geological compilation and digital cartography by J. Bednarski, 2002

This is a product of the Central Foreland NATMAP Project
Any revisions or additional geological information from the user would be welcomed by the Geological Survey of Canada

Universal Transverse Mercator Projection
North American Datum 1983
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UNIVERSAL TRANSVERSE MERCATOR GRID, ZONE 18

95 G/3 Nahanni Butte	95 G/2 Dahdjida Island	95 G/1 No Title
95 B/14 Netta River GSC OF 4478	95 B/15 Emile Lake GSC OF 4477	95 B/16 Arrowhead Lake GSC OF 1775
95 B/11 Denedothada Creek GSC OF XXXX	95 B/10 Arrowhead River GSC OF XXXX	95 B/9 Pointe-de-fleche River GSC OF 1773

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DOSSIER PUBLIC
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2003

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