

- LEGEND
- 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
- Bog peat:** Sphagnum or forest peat formed in an ombrotrophic environment; may be tree or treeless with a cover of entocarpous shrubs; hummocky, wet terrain; in places underlain by ground ice, O'h; undifferentiated bog and fen deposits, O'
- 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 <1-100 m thick; nonsorted to poorly sorted, massive to stratified debris deposited by direct, gravity-induced movement; hummocky terrain, Ch
- ALLUVIAL DEPOSITS:** sorted gravel, sand, and organic detritus deposited by flowing water
- 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, At; undifferentiated, A
- Fluvial deposits, channelled:** numerous subparallel alluvial channels covering gentle to moderate slopes; **Alluvial veneer:** deposits too thin to mask the underlying surface, <1 m thick, Av
- Fluvial deposits, terraced:** low, inactive terraces immediately above active floodplains
- 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**
- GLACIO-LACUSTRINE DEPOSITS:** fine sand, silt, and clay, deposited in glacier-dammed lakes in valleys or along margins of the retreating Laurentide Ice Sheet; > 1 m thick; level topography; usually overlain by organic deposits in lowlands; hummocky topography, Lh
- 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:** nonsorted debris deposited directly by glaciers; matrix is sandy to clayey and contains stratified clasts of various lithologies, including many Canadian Shield erratics in the lowlands
- Till blanket:** > 1 m thick; forming undulating topography; hummocky moraine, Th, rolling topography, Tm
- Ridged 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

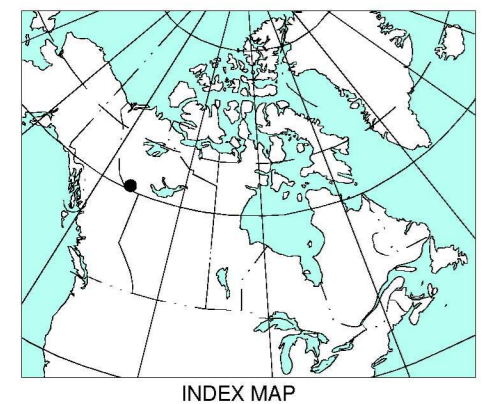
- Geological boundary (defined, gradational)
- River meander scar
- Small swamp or bog
- Abandoned meltwater channel or channel occupied by an underfit stream (large, small and direction of flow inferred, small and direction of flow not inferred)
- Escarpment
- Kettle
- End moraine
- Minor moraine or 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
- Bedrock outcrop

NOTES:

Tourbière River map area was glaciated during the Late Wisconsinan glaciation (ca. 25 000-10 000 years ago). The continental Laurentide Ice Sheet, which covered the area, generally flowed from northeast to southwest, as indicated by glacial rubings in the map area. West of this map area, the Laurentide Ice Sheet encountered montane ice and was forced to flow northeast. Local deglaciation occurred sometime before 12 ka ¹⁴C BP (Dyke and Prest, 1987). During deglaciation, the regional drainage through the Liard River system was blocked by the Laurentide Ice Sheet as it retreated eastward. Glacial Lake Liard formed within the main Liard River valley, whereas, smaller, short-lived glacial lakes were created in many depressions east of the river. As the ice margin retreated northeast across this map area, many ice-contact glaciofluvial features were deposited by meltwaters issuing from the glacier. For example, the map area has several esker systems, and although they are up to several kilometres long, they contain mostly diamictites, making poor aggregate quality. Glacial drift is at least 15 metres thick throughout the map area, as indicated by auger data from seismic surveys. In the early stages of deglaciation, the Muskeg River and some of the larger tributaries were probably tunnel valleys, bounded by the ice sheet. As the ice margin retreated to a position northeast of here, the valleys drained glacial lakes, especially a larger glacial lake around present-day Trout Lake, northeast of here. Extensive muskeg covers the flat lying areas of this area, which probably contain significant amounts of ground ice, indicated by hummocky peat lands.

REFERENCES

Dyke, A.S. and Prest, V.K. 1987. Late Wisconsinan and Holocene Retreat of the Laurentide Ice Sheet, Geological Survey of Canada, Map 1702-A, scale 1:5 000 000



CONTOUR INTERVAL 50 FEET
Elevations in Feet above Mean Sea Level

Digital Topographic Data provided by Geomatics Canada, Natural Resources Canada
adjusted to conform to Landsat Geocover image (Landsat-5 image mosaic, August 1991) by the author

OPEN FILE 4487

SURFICIAL GEOLOGY

TOURBIÈRE RIVER

NORTHWEST TERRITORIES

Scale 1:50 000 Échelle

kilometres 1 0 1 2 3 4 5 kilometres

Universal Transverse Mercator Projection
North American Datum 1983
© Her Majesty the Queen in Right of Canada, 2003

Projection transversière universelle de Mercator
Système de référence géodésique nord-américain, 1983
© Sa Majesté la Reine du chef du Canada, 2003

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

95 B/11 Denedothada Creek GSC OF 4480	95 B/10 Arrowhead River GSC OF 4483	95 B/9 Porte-de-fêche River GSC OF 1773
95 B/6 Rabbit Creek GSC OF 4486	95 B/7 Tourbière River GSC OF 4487	95 B/8 Muskeg River GSC OF 1753
95 B/3 Fort Liard GSC OF 1769	95 B/2 Lake Bowe GSC OF 1761	95 B/1 Cellbata Lake GSC OF 1761

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX
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2003

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