

- 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
- O<sup>1</sup>** **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, Oh; undifferentiated bog and fen deposits, O;
- O<sup>2</sup>** **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
- C** **Landslide and slump debris:** active and inactive landslides; hummocky terrain, Ch; inactive rock glaciers; rock debris deformed by the flow of buried or interstitial ice, forming ridges and furrows, C<sub>ice</sub>
- Cv** **Colluvial veneer:** thin cover of rock debris <1 m; usually the product of solifluction acting on gentler slopes
- 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, At; large, low terraces with meander scars and active and inactive channels, primarily along the Liard River, Al; undifferentiated, A
- Ac** **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
- At** **Fluvial deposits, terraced:** low, inactive terraces immediately above active floodplains
- L<sup>1</sup>** **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
- L** **GLACIOLACUSTRINE 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; kettled topography, Lk
- 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; delta terraces, Gd; ice-contact ridges, Gr; undifferentiated, G
- TILL:** nonsorted debris deposited directly by glaciers; matrix is sandy to clayey and contains striated clasts of various lithologies, including many Canadian Shield erratics in the lowlands
- Tb** **Till blanket:** > 1 m thick; forming undulating topography; hummocky moraine, Th; rolling topography, Tm
- Tr** **Ridged moraine:** moraines or crevasse fillings forming a ridged topography
- Tv** **Till veneer:** < 1 m thick and discontinuous; underlying bedrock topography is discernible
- PRE-QUATERNARY BEDROCK
- R** **SEDIMENTARY BEDROCK;** Paleozoic to Mesozoic rocks exposed along steep mountain ridges of the Liard Range

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
- 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)
- Lateral meltwater channel, barb on the uphill side
- Escarpment
- Kettle
- End moraine
- Minor moraine or crevasse filling
- Furrows and troughs related to glacial flow, likely formed subglacially
- Radiocarbon date (uncorrected)
- | Date     | Material  |
|----------|-----------|
| Lab. no. | Elev. (m) |
|          |           |

NOTES:

Sawmill Mountain map area was glaciated during the Late Wisconsinan glaciation (ca. 25 000-10 000 years ago). South of here, in the Fisherman Lake area, wood fragments between reworked till and overlying glaciolacustrine sediment radiocarbon dated 32.7 ka BP (1-3187, Millar 1968), provide a maximum age for the advance. Although the area was probably first glaciated by montane ice from the west, the last major ice sheet to cover the area was the continental Laurentide Ice Sheet. The Laurentide Ice Sheet flowed into the region from the northeast, carrying with it distinctive erratics from the Canadian Shield, which are now found in till mantling the valley floors and on several mountain summits in the area. The upper tributary valleys of Blue Bill Creek are mantled with up to 40 metres of till and boulder gravels.

During deglaciation, the Liard River drainage into the Mackenzie River was blocked by the Laurentide Ice Sheet and glacial lakes were created in the valleys north and south of Sawmill Mountain, now occupied by Blue Bill and Flett creeks. It is likely that arms of glacial Lake Liard, a large lake that filled the Liard River valley, entered these mountain valleys during early postglacial time. With further retreat of the ice sheet, glacial Lake Liard regressed from these valleys and the mountain creeks deposited sandy sediment into it. A spruce log extracted from sandy delta sediments in lower Blue Bill Creek dated 9900 <sup>14</sup>C BP.

Landslides are common in the area. Interbedded recessive shales and thick sandstones exposed along cliffs in the Liard Range are prone to failures causing landslides ranging in size from a few 10's m<sup>2</sup> to several km<sup>2</sup>. Active and relic landslides suggest that mass wasting has been occurring throughout the postglacial time and is on going.

#### REFERENCES

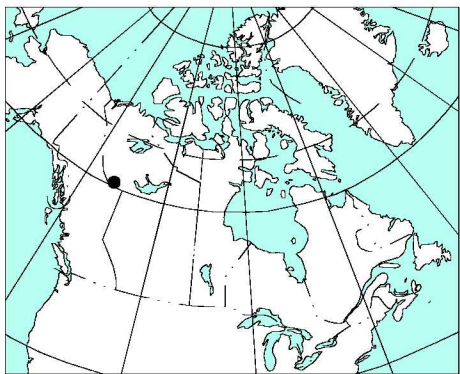
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p. 57.

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GEOLOGICAL SURVEY OF CANADA  
COMMISSION GÉOLOGIQUE DU CANADA  
2003

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Digital Topographic Data provided by Geomatics Canada, Natural Resources Canada, adjusted to conform to Landsat Geoserver image (Landsat-5 image mosaic, August 1991), including an updated course of the Liard River, by the author

Scale 1:50 000 Échelle

Universal Transverse Mercator Projection  
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This is a product of the Central Foreland NATMAP Project  
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95 F/1 Clausen Creek	95 G/4 The Twisted Mountain	95 G/3 Nahanni Butte
95C/16 Etanda Lakes GSD OF 1671	95 B/13 Sawmill Mountain GSD OF 4476	95 B/14 Netla River GSD OF 4478
95 B/9 Chinkah Creek GSD OF 1615	95 B/12 Mount Flett GSD OF XXXX	95 B/11 Denedothada Creek GSD OF XXXX

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