

Coloured legend blocks indicate map units that appear on this map

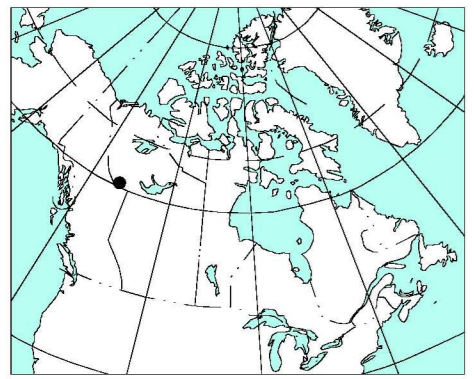
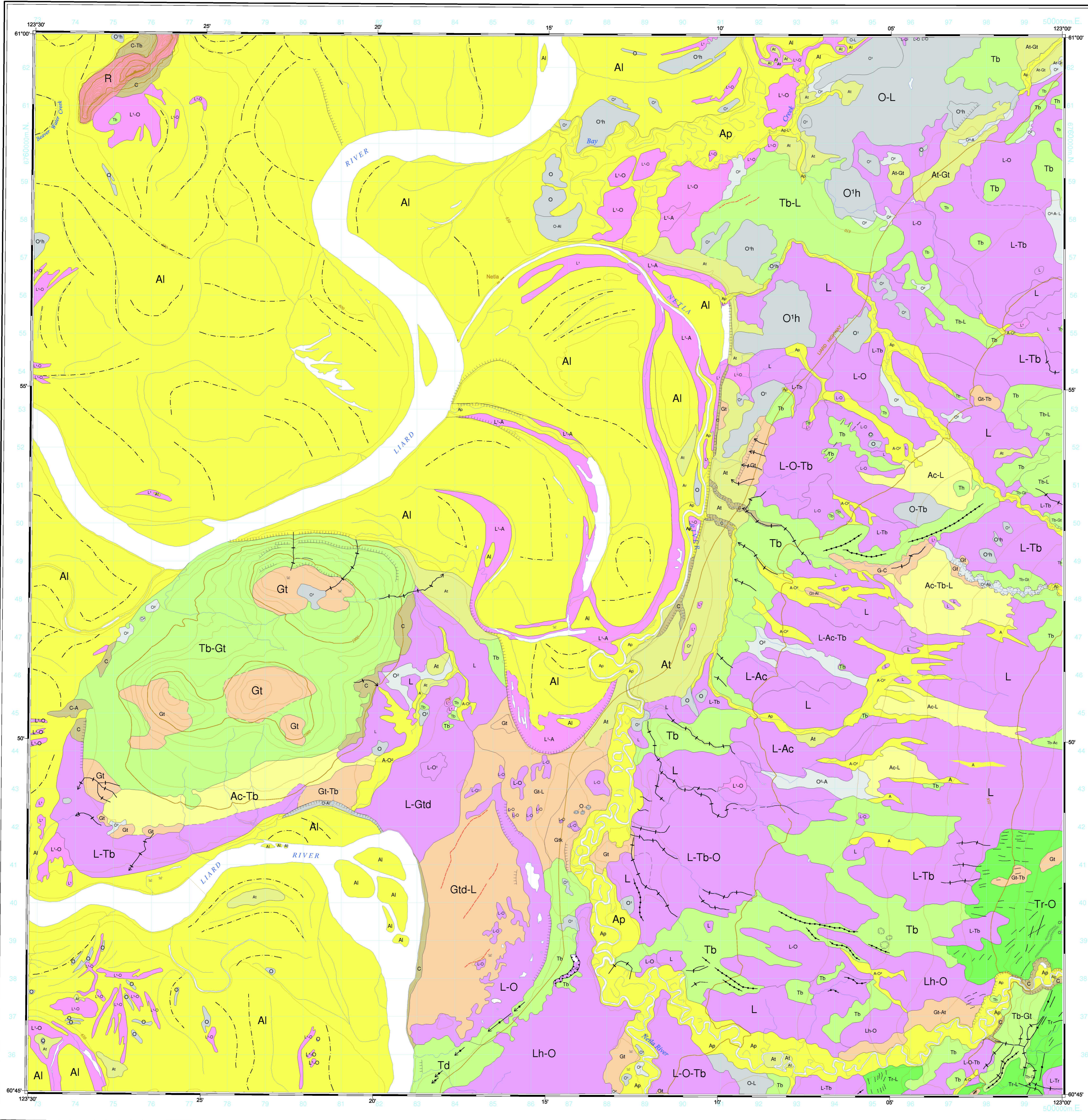
- QUATERNARY**
SURFICIAL DEPOSITS
- POST LAST GLACIATION**
- NONGLACIAL ENVIRONMENTS**
- ORGANIC DEPOSITS:** peat: 1 to 2 m thick; formed by the accumulation of vegetation in poorly drained depressions (swamps and bogs); produces flat, wet terrain
 - O¹** **Bog peat:** Sphagnum or forest peat formed in an ombrotrophic environment; may be treed or treeless with a cover of ericaceous shrubs; hummocky, wet terrain, in places underlain by ground ice. O^h: kettled topography; O^k: undifferentiated bog and fen deposits, O: undifferentiated hummocky bog and fen deposits. O^h
 - 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 <1-100 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, Al, large sand dunes along the Liard River, Ar: large, low terraces with meander scars and active and inactive channels, primarily along the Liard River, Ai, 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**
- 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
 - G** **GLACIOFLUVIAL DEPOSITS:** proglacial outwash, gravel and sand with minor diamictons deposited in front of the ice margin, usually 1-10 m thick; forming distal outwash terraces, Gt, delta terraces, Gtd, ice-contact ridges, Gr; undifferentiated, G
 - TLL:** 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, Tb^k: extensively fluted and drummized till blanket, Td, hummocky moraine, Th, rolling topography, Tm
 - Tr** **Ridged moraine:** moraines or crevasse fillings forming a ridged topography
- PRE-QUATERNARY BEDROCK**
- R** **Sedimentary bedrock:** R: Paleozoic to Mesozoic rocks exposed in the steep cliffs along the Petilot River and along the crest of the Bowie Lake structure, a north-trending ridge bordering the east side of the map area.

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 meandering channel or channel occupied by an underflow stream (large, small and direction of flow inferred, small and direction of flow not inferred)
- Esker (flow direction inferred)
- Kettle
- End moraine
- Minor moraine or crevasse filling
- Ice moulded form in fill (direction of flow inferred, not inferred; broader forms have middle dots)
- Furrows and troughs related to glacial flow, likely formed subglacially

NOTES:
The uplands on the east side of Nella River map area are dominated by glacial deposits marking the northward retreat of the Laurentide Ice Sheet from the Liard Valley. Much of the area was subsequently overlain by glaciolacustrine sediment deposited into glacial Lake Liard, an ice-dammed lake that formed when the Laurentide Ice Sheet stood northeast of here and blocked regional drainage into the Mackenzie River.

Recent alluvial sediments of the Liard River dominate the lowland of the Nella River map area. Auger data from seismic surveys in this area show that the Liard floodplain is typically underlain by 20 metres of sand and gravel with a maximum of 37 metres. In the west central part of the map area, the Liard River meanders around a prominent hill. Although this rise is likely underlain by bedrock, none is visible at the surface. Auger data from the western edge of the rise record detrital shale from 11 to 23 metres below the surface. This rise is separated from the uplands to the east by a shallow trough, which is underlain by thick deposits of detrital sand. Well-sorted and current bedded sand is exposed over several kilometres in the southern part of the map area along the Liard River. This sand was likely deposited as a delta into glacial Lake Liard.



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

OPEN FILE 4478
SURFICIAL GEOLOGY
NETLA RIVER
NORTHWEST TERRITORIES

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

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

UNIVERSAL TRANSVERSE MERCATOR GRID, ZONE 10

95 G/4 The Twisted Mountain	95 G/3 Nahanni Butte	95 G/2 Dehijida Island
95 B/13 Sawmill Mountain GSC OF 4476	95 B/14 Netla River GSC OF 4478	95 B/15 Emile Lake GSC OF 4477
95 B/12 Mount Flett GSC OF XXXX	95 B/11 Denedothada Creek GSC OF 4478	95 B/10 Arrowhead River GSC OF XXXX

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