

INTRODUCTION
The surficial geology component of the Slave Province National Mapping Program (NATMAP) was designed to provide a regional framework for geological interpretation, environmental management, and drift prospecting.

PHYSIOGRAPHY AND DRAINAGE
The Coppermine map area lies in north-central District of Mackenzie. The regional terrain slopes gently northward towards Coronation Gulf.

BEDROCK GEOLOGY
The study area falls within the Bear Province near its eastern boundary with the Slave Province. The Precambrian bedrock in the southern portion of the map area (Figure 1) consists of Archean gneiss, greywacke, shales, stromatolite, metabasite, and minor igneous intrusions.

SURFICIAL SEDIMENTS
Till deposits
Till is the dominant surficial sediment in the map area. It consists of a matrix-supported diamictum, with silt to fine sand matrix (Fig. 2), and variable ice to moderate concretion.

Outwash
Outwash consists of coarse sand and gravel, massive to cross stratified, 2 to 20 m thick; deposited at, or beyond, the ice margin; occurs as braided fans and outwash plains with ice-wedge polygons.

Esker
Esker consists of sand, silt, and gravel; in planar, cross-stratified, and massive beds; 1 to 20 m thick; forms ridges with both sharp-crested and flat-topped segments, mounds, and faning aprons.

Glacial drift
Glacial drift consists of unsorted glacial till, sand, gravel, and cobbles, massive to cross stratified, 1 to 20 m thick; deposited during glacial retreat; may include fine-grained glacial till, ice-wedge polygons, and rounded pebbles and cobbles.

Marine terrace
Marine terrace consists of unconsolidated sand, silt, and clay, with variable amounts of gravel and cobbles, less than 2 m in thickness.

Marine deposit
Marine deposit consists of unconsolidated sand, silt, and clay, with variable amounts of gravel and cobbles, less than 2 m in thickness.

Ice flow indicators
Large-scale ice flow indicators such as drumlins, ridges, and tails, and niches monodunes are common throughout much of the map area.

Glacial history
The Coppermine map area lies west of the Laurentide Ice Sheet's McClinton to Diviside which developed during the Late Wisconsin maximum (18 000 to 13 000 years BP).

Provenience investigations
A regional provenience study based on the lithology of pebbles in till, and field observations on boulder lithologies, was undertaken to determine the relation between till and bedrock.

References
Baragar, W.R.A. and Donaldson, J.A. 1973. Geology, Coppermine, District of Mackenzie, Northwest Territories (NTS 86-O). Geological Survey of Canada, Map 1307A, scale 1:250 000.



LEGEND
QUATERNARY HOLOCENE
O ORGANIC DEPOSITS: clay to silt-sized sediment deposited by modern streams and rivers.

M3 LITORAL SEDIMENTS: medium to coarse grained sand with pebbles, may also consist of small cobbles and shingles.

M2 MARINE BLANKET: undifferentiated silt and clay with minor sand; from 2 to 30 m thick; commonly occurs in coarsening-upward sequence.

M1 MARINE VEENER: undifferentiated sand, silt, and clay, but predominantly silt and clay, less than 2 m thick.

D FLEISTOCENE (WISCONSIN GLACIATION) GLACIAL ENVIRONMENT
D1 GLACIOMARINE AND MARINE DELTAS: sand, gravel, and cobbles, massive to cross stratified.

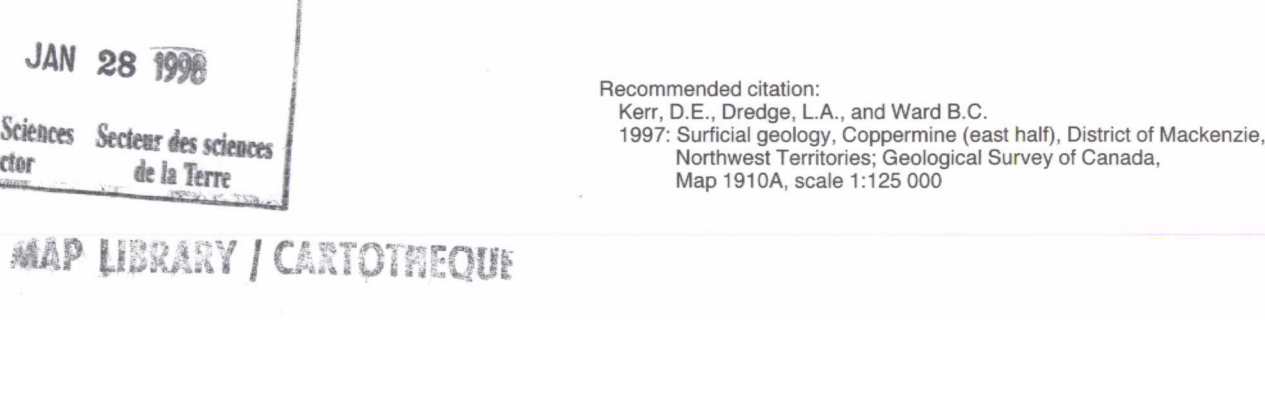
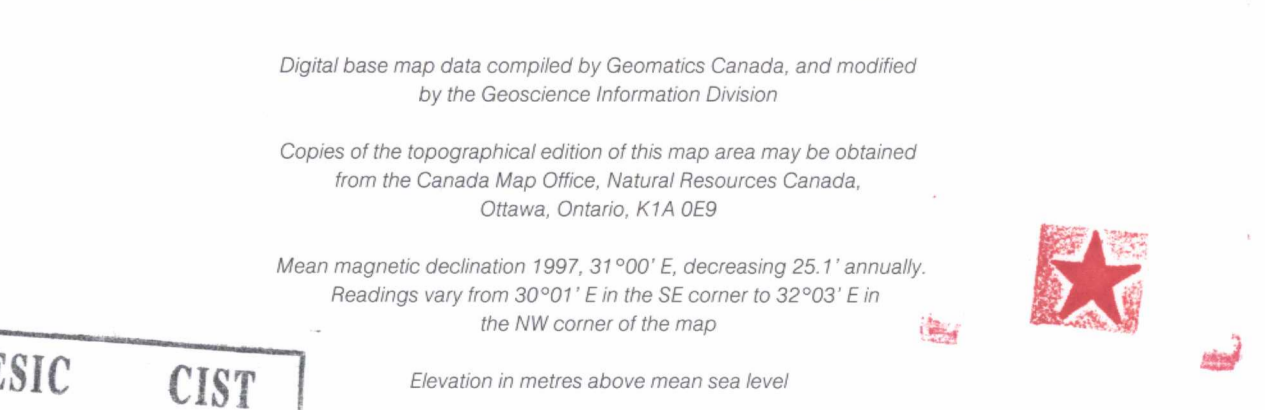
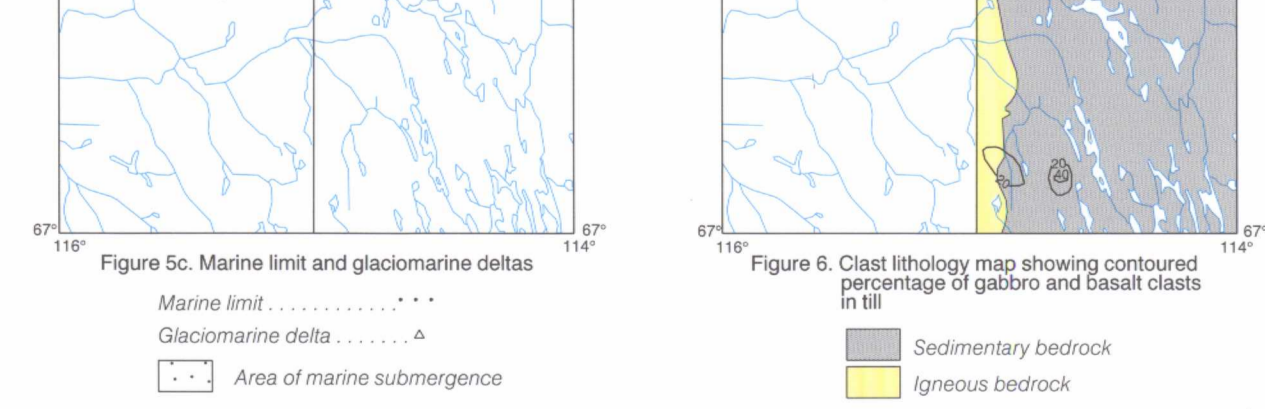
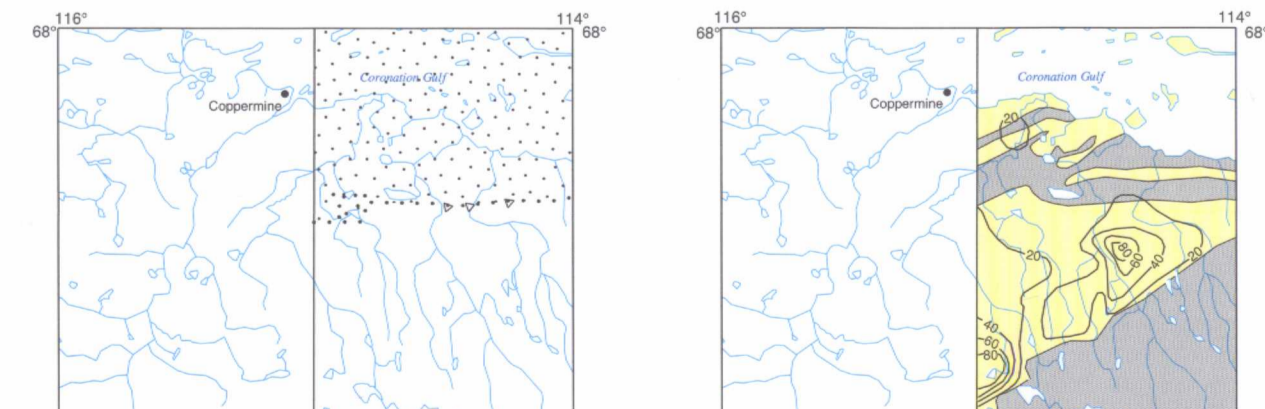
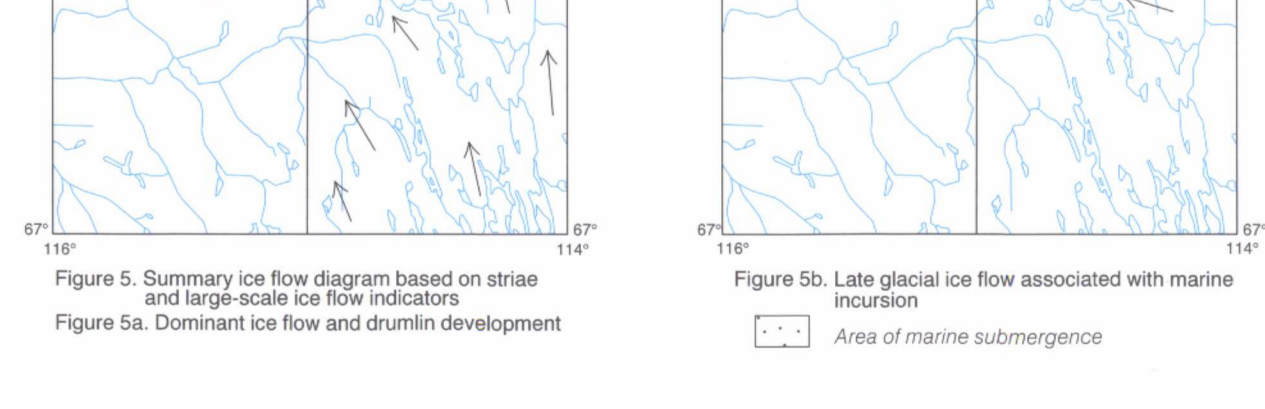
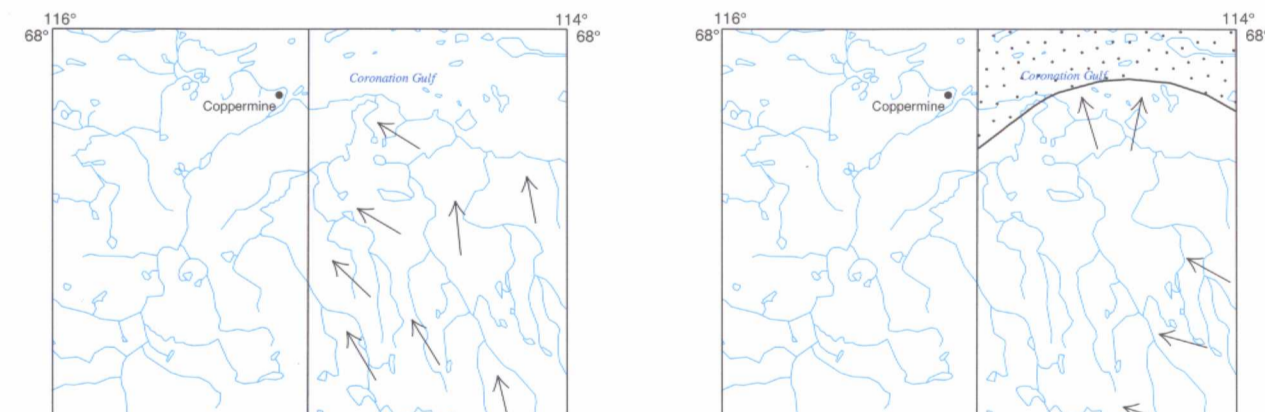
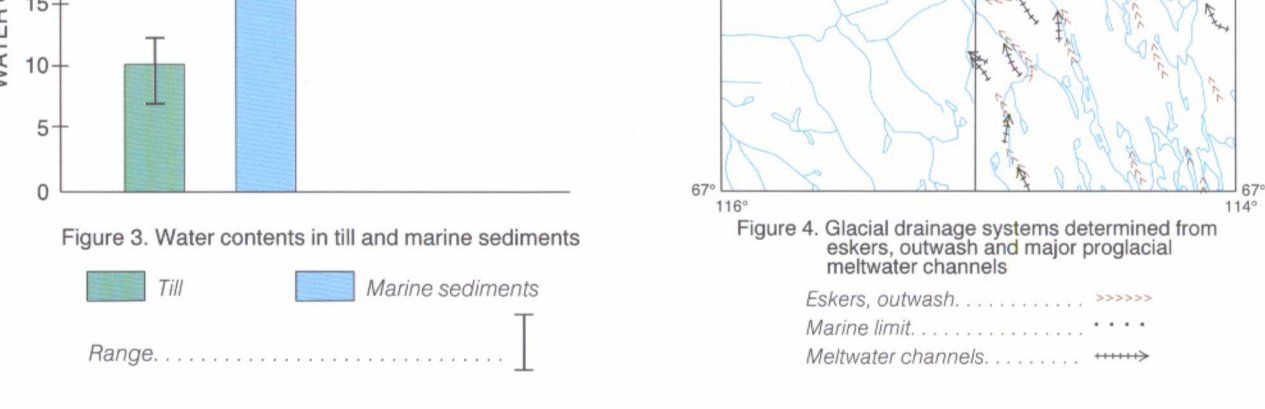
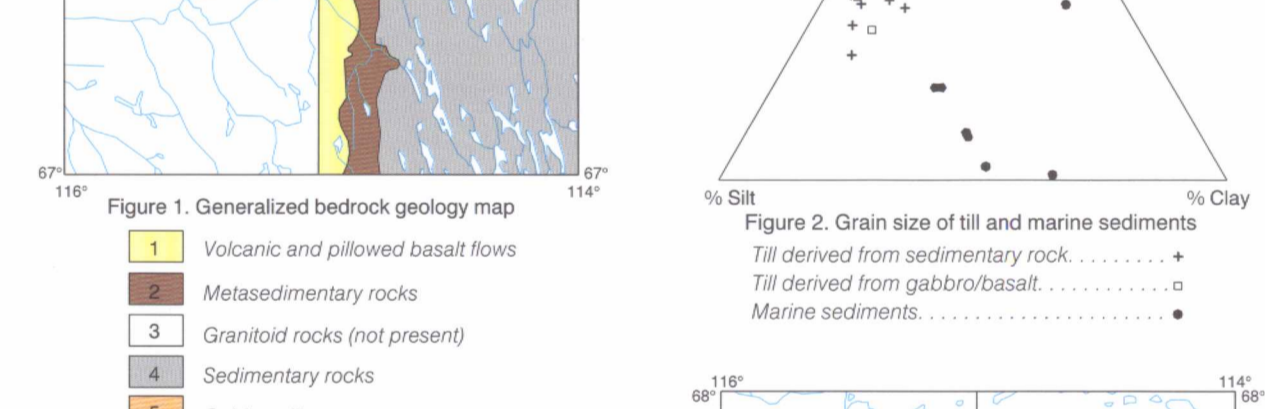
G2 OUTWASH: rounded gravel and sand; massive to cross stratified; 2 to 20 m thick; deposited at, or beyond, the ice margin.

G1 ESKER: consists of sand, silt, and gravel; in planar, cross-stratified, and massive beds; 1 to 20 m thick.

T2 TILL BLANKET: from 2 to 10 m thick; occurs as till plains mimicking bedrock topography or as drumlins.

T1 TILL VEENER: less than 2 m thick; rock structure a generally visible on anophis; unit includes patches of bedrock, till blanket, and marine sediments.

PRE-QUATERNARY
R5 Flow basal and gabbro silt
R4 Sedimentary rocks
R3 Granitoid rocks (not present)
R2 Metasedimentary rocks
R1 Volcanic rocks



MAP 1910A SURFICIAL GEOLOGY COPPERMINE (East Half) DISTRICT OF MACKENZIE NORTHWEST TERRITORIES Scale 1:125 000 - Echelle 1/125 000

This map has been produced from a scanned version of the original map. Reproduction par numérisation d'une carte sur papier.

Digital base map data compiled by Geomatics Canada, and modified by the Geoscience Information Division. Copies of the topographical edition of this map area may be obtained from the Canada Map Office.

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