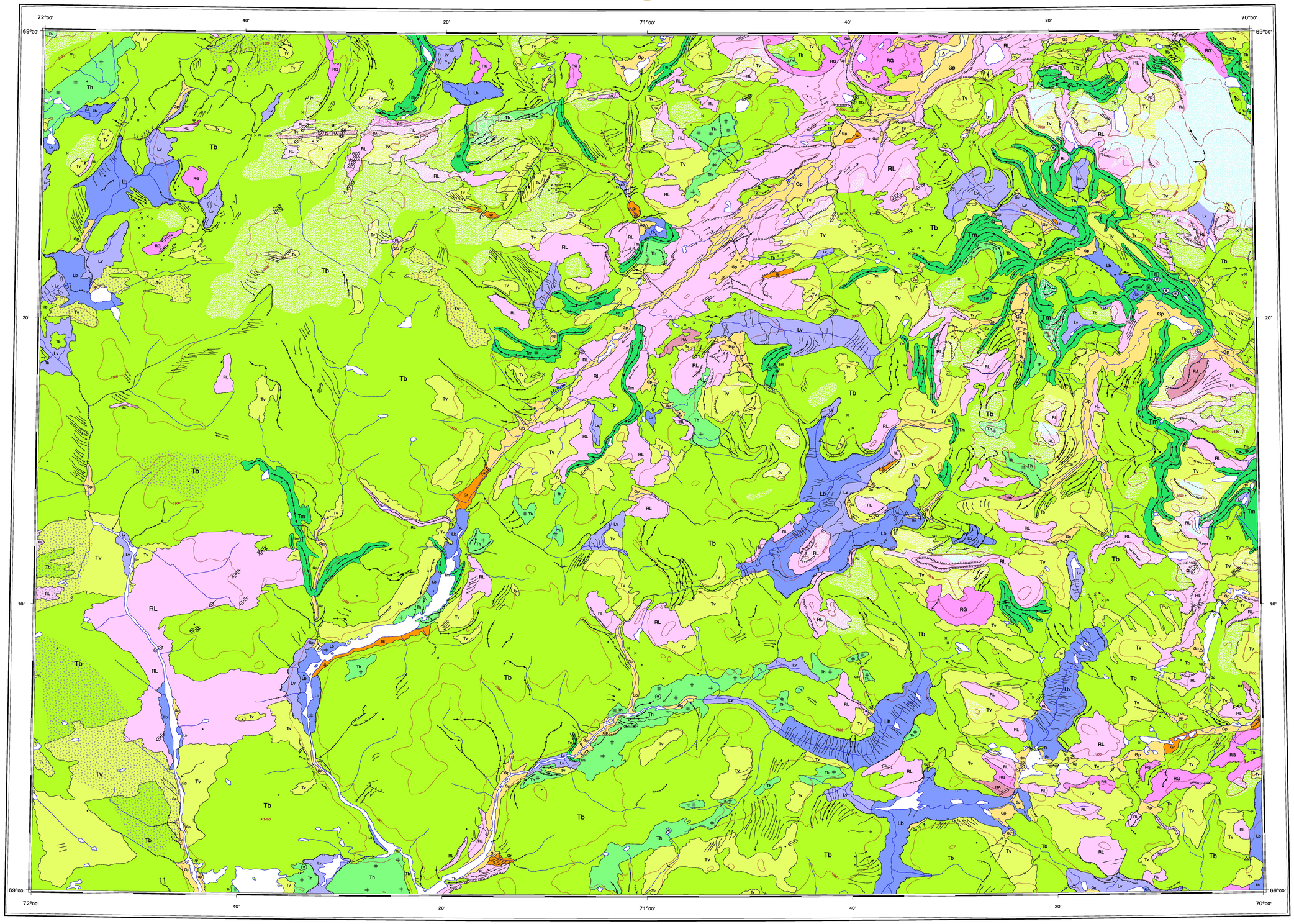
Natural Resources Canada | Ressources naturelles Canada

GEOLOGICAL SURVEY OF CANADA | COMMISSION GÉOLOGIQUE DU CANADA



LEGEND

This legend is common to Open Files 4296, 4354, 4355, 4357, 4411, 4412, 1533, 1569–1572.
Coloured legend blocks indicate map units that appear on this sheet.
Not all map symbols shown in the legend necessarily appear on this sheet.

SURFICIAL DEPOSITS
QUATERNARY
HOLOCENE

ICE: *Glacier ice: 5–800 m thick; forming ice caps and outlet glaciers.*

A — ***FLUVIAL DEPOSITS (nonglacial alluvial floodplain sediments and active proglacial outwash):*** *gravel, sand, and boulders; 1–5 m thick; forming terraces and valley bottom deposits.*

MARINE DEPOSITS: *sediments deposited during regression of a high postglacial sea.*

Mr — ***Beach sediments:*** *gravel and sand, 1–5 m thick; forming flights of ridges with intervening swales.*

Md — ***Deltaic sediments:*** *sand and gravel topsets, grading downwards to foresets of fine sand or silt; 2–15 m thick; sparsely fossiliferous; forming terraces and plains where meltwater streams emptied into the regressing sea.*

Mb — ***Marine blanket deposits:*** *sand and silt with some sea-ice rafted debris; 2–10 m thick; forming continuous cover of sublittoral and offshore sediments.*

Mv — ***Marine veneer:*** *sand, silt, and gravel; 0.5–2 m thick; discontinuous cover of littoral and offshore sediment including, beach ridges and sea-ice rafted debris; mimicking surface of underlying till or rock.*

GM — ***Glaciomarine blanket:*** *diamictic stony sand and mud with ice-rafted dropstones; 2–10 m thick; forming undulating plains ridged with small moraines that have been reworked by marine processes; deposited in an ice-contact environment.*

GLACIOLACUSTRINE DEPOSITS: *sediments deposited in glacier- or moraine-dammed lakes fronting the ice margin.*

Lb — ***Glaciolacustrine blanket deposits:*** *sand and mud with ice-rafted dropstones; 2–10 m thick; forming flat to undulating plains interspersed with small morainal ridges.*

Lv — ***Glaciolacustrine veneer:*** *sandy sediments; 0.5–2 m thick; forming plains interspersed with till or rock.*

GLACIOFLUVIAL DEPOSITS: *gravel and sand; 2–20 m thick; deposited behind, at, and in front of the ice margin.*

Gp — ***Glaciofluvial outwash:*** *stratified gravel and sand; 2–15 m thick; locally kettled; grading to deltaic sediments near marine limit; deposited in a proglacial environment as valley trains, braidplains, terraces, and fans.*

Gr — ***Ice-contact deposits:*** *eskers and kames; poorly stratified or sorted sandy to bouldery gravel ; 5–20 m thick, forming ridges and hummocks; deposited in a subglacial environment along meltwater corridors.*

EARLY HOLOCENE AND WISCONSINAN

TILL: *stony diamictic deposits with a pebbly sand or silty sand matrix; generally unsorted; deposited in subglacial and ice-marginal environments. Lithic composition generally reflects underlying bedrock type.*

Tm — ***Massive end moraines:*** *glacial diamicton; 5–60 m thick; extensively kettled in places; forming broadly arcuate ridges that were deposited along ice margins. Near glaciers and ice caps this unit may contain or overlie remnant glacial ice.*

Th — ***Hummocky till:*** *glacial diamicton which may contain remnant glacial ice: 2–30 m thick; forming rolling to hummocky terrain.*

Tb — ***Till blanket:*** *glacial diamicton; 2–10 m thick; forming undulating plains with fluted or drumlinized areas, and areas of boulder fields; deposited mainly in a subglacial environment by basal melt-out.*

Tv — ***Till veneer:*** *glacial diamicton; 0.5–2 m thick; discontinuous cover mimicking topography of underlying bedrock.*

PALEOZOIC AND PRECAMBRIAN

BEDROCK: *intact and frost-riven outcrop of several compositions and ages, variously modified by glacial erosion; rolling to hilly topography with numerous ridges and scarps; some streamlined landforms; surfaces range from rough and weathered to glacially polished.*

RC — *Limestone and dolomite of Paleozoic age; commonly forming ledges and bluffs; weathers into platy fragments or to sandy silt.*

RF — *Marble of the Flint Lake Formation; commonly forming small outcrops in valleys; weathers to grus and silt.*

RA — *Sulphide-bearing black pelite, with oxidized pelite, psammite and iron-formation of the Astarte River Formation; forming rolling plains and some ridge and valley topography. Overlying till has a silty sand matrix.*

RL — *Clastic metasedimentary rocks, chiefly psammite, pelite, wacke and quartzite of the Longstaff Bluff and Dewar Lakes Formations; commonly forming plains or ridge and valley topography. Overlying till commonly has a silty sand matrix.*

RB — *Mafic and ultramafic rocks, chiefly of the Bravo Lake Formation.*

RG — *Granite and gneiss; forming resistant hills commonly overlain by bouldery till with a sandy matrix.*

- *Geological boundary*
- *Areas of lichen kill by Little Ice Age snowbanks and snowfields (indicated by a white pattern)*
- *Seepage or river icing*
- *Boulder fields*
- *Holocene fossil locality*
- *Gossan*
- *Prominent ice wedge polygons*
- *Isolated bedrock outcrop*
- *Perched delta (elevation in metres)* (78m)
- *Solifluction lobes*
- *Landslide or rockslide*
- *Kame or conical gravel hill*
- *Kettle (large, small)*
- *Drumlinoid ridge*
- *Rock-crag and till-tail form*
- *Glacially plucked bedrock*
- *Striation (ice flow direction known, unknown)*
- *Crossed striae (numbers indicate relative age, 1 being the oldest)*
- *Glacially shaped bedrock, undifferentiated*
- *Ground observation and sample site*
- *Ice-marginal meltwater channel; barb on upslope side*
- *Subglacial and proglacial meltwater channel (small, ephemeral)*
- *Beach ridge crests*
- *Marine washing limit; with elevation in metres* (143m)
- *Glacial lake shoreline*
- *Overflow channel or spillway from glacial lake*
- *Esker*
- *End moraine*
- *DeGeer or sublacustrine moraine*
- *Ice-contact face*
- *Cliff face in bedrock*

Geology based on fieldwork by L.A. Dredge, E. Little, P. Toole, H. Bonish, R. Chouinard, J. Severin, and A. Tizzard, 2001 and 2002

Geological compilation by L.A. Dredge, 2003

Digital cartography by M-J. Coulthart, Earth Sciences Sector Information Division (ESS Info)

This map was produced from processes that conform to the ESS Info Publishing Services Subdivision Quality Management System, registered to the ISO 9001: 2000 standard

Logistical support provided by the Polar Continental Shelf Project as part of its mandate to promote scientific research in the Canadian North. PCSP 1009

OPEN FILE 1571

SURFICIAL GEOLOGY

ITIRBILUNG FIORD

BAFFIN ISLAND

NUNAVUT

Scale 1:100 000/Échelle 1/100 000

kilometres 2 0 2 4 6 8 kilometres

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

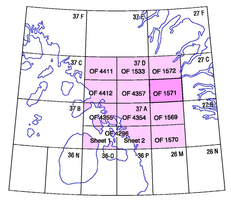
Projection transverse universelle de Mercator
Système de référence géodésique nord-américain, 1983
© Sa Majesté la Reine du chef du Canada 2003

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Digital base map from data compiled by Geomatics Canada, modified by ESS Info

Proximity to the North Magnetic Pole causes the magnetic compass to be erratic in this area Mean magnetic declination 2003, 44°3' W, decreasing 35.3' annually. Readings vary from 43°12' W in the SW corner to 44°47' W in the NE corner of the map

Elevations in feet above mean sea level



NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS

OPEN FILE
DOSSIER PUBLIC
1571
GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA
2003

Open files are products that have not gone through the GSC formal publication process.

Les dossiers publics sont des produits qui n'ont pas été soumis au processus officiel de publication de la CGC.

Canada

Recommended citation:
Dredge, L.A.
2003: Surficial geology, Itirbilung Fiord, Baffin Island, Nunavut; Geological Survey of Canada, Open File 1571, scale 1:100 000.