OPEN FILE 4695

SURFICIAL GEOLOGY

NINA BANG LAKE

BAFFIN ISLAND

NUNAVUT

Scale 1:50 000/Échelle 1/50 000

Projection transverse universelle de Mercator

Système de référence géodésique nord-américain, 1983

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Universal Transverse Mercator Projection

North American Datum 1983

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Geology by A.S. Dyke, 2004

Field data provided by De Beers Canada Corporation, 2003

Digital cartography by M.M. Prouix, 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

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

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

Locational accuracy of the base appears to be ± 100 m based on

plotting of GPS measured field site locations

Proximity to the North Magnetic Pole causes the magnetic compass to be erratic in this area

Mean magnetic declination 2005, 43°30'W, decreasing 43.7' annually

Elevations in metres above mean sea level

Contour interval 20 m

Field altimetry and the placement and trend of raised shorelines

may conflict significantly with the contours

37 F/8

REFERENCES

1993: Landscapes of cold-centred Late Wisconsinan ice caps, Canadian Arctic; Progress in Physical Geography, v. 17, p. 223–247. Jackson, G.D. and Sangster, D.F.

LEGEND

This legend is common to Open Files 4683 to 4701. Coloured legend blocks indicate map units that appear on this map. Not all map symbols shown in the legend necessarily appear on this map.

COLLUVIUM: block and rubble accumulations, 1-50 m thick.

commonly crossed by debris flow channels and levées.

furrows, and pits, and with steep, unstable sides and fronts.

Alluvial terraces: gravel and sand, 2-20 m thick.

Alluvial fans: gravel and sand, 2-20 m thick.

upward sequences under dissected terraces.

upward sequences under dissected terraces.

minor gravel, 2–10 m thick.

terraces, Gt; and fans, Gf.

EARLY HOLOCENE AND WISCONSINAN

PRE-QUATERNARY

Weakly developed strandline . .

Margin of glacial dispersal train;

teeth toward axis, steep side of teeth face down ice

cold-based ice on other side; steep sides of teeth face down ice

Crossed striae (numbers indicate relative age, 1 being the oldest) Field observation site: bouldery diamicton (bd), bouldery gravel (bg),

rock (r), sand (s), sandy gravel (sg), stony mud (sm), till (t)

Field observation site: material as above near rock outcrop .

diamicton (d), gravel (g), gravelly sand (gs), mud (m), muddy sand (ms),

Lateral sliding boundary; teeth on sliding side,

Striae (ice flow direction known, unknown)

Radiocarbon date .

FLUVIAL SEDIMENTS: alluvium; gravel and sand, 2-20 m thick.

Talus: active block and rubble accumulations as much as 50 m thick forming talus (scree) aprons and fans below cliffs resulting from rock falls and debris flows;

Rock glacier debris: talus, generally 10-50 m thick, deformed by active flow of interstitial or buried ice to form rock (talus) glaciers with transverse ridges and

Alluvial plains: active braided floodplains; includes active proglacial outwash.

MARINE AND GLACIAL MARINE SEDIMENTS: gravel, sand, silt, and clay, 1-20 m

thick, deposited in deltaic and beach environments during regression of the

Beach sediments: gravel and sand, 1–5 m thick, forming ridges and swales.

Deltaic sediments: clay, silt, sand, and gravel, 5-20 m thick, forming coarsening

Deepwater proglacial silt veneers: silt, clay silt, and fine sand with dropstones,

GLACIAL LACUSTRINE SEDIMENTS: clay, silt, sand, and gravel deposited in glacier dammed lakes in deepwater, beach, and deltaic environments.

Deltaic sediments: clay, silt, sand, and gravel, 5-20 m thick, forming coarsening

Deepwater proglacial silt veneers: silt, clay silt, and fine sand with dropstones,

Deepwater proglacial silt blankets: silt, clay silt, and fine sand with dropstones,

GLACIOFLUVIAL SEDIMENTS: gravel and sand, 1-10 m thick, deposited behind, at,

Proglacial outwash: gravel and sand, 1–10 m thick, forming braided floodplains, Gp;

Ice contact stratified drift: gravel and sand, 1-5 m thick, forming eskers, Gr; and

TILL: nonsorted stony muds, 0.5-60 m thick, deposited in subglacial and ice marginal

End moraines: 5-60 m high, composed of or mantled by till, extensively kettled in

Washed till veneer: 0.5-2 m thick, surface armoured by stones due to washing by

Till blanket: 2-10 m thick forming an undulating blanket with drumlins and ribbed

ROCK: rock of various compositions and ages (Jackson and Sangster, 1987) variously modified by glacial erosion during the Quaternary and with patchy till cover; hilly and hummocky surfaces, ice moulded in places, with lake basins in subglacially scoured regions; smooth surfaces exhibiting little or no sign of glacial erosion in peninsular interiors (Dyke, 1993); cliffs resulting from glacial over-steepening; in

Ribbed till blanket: 2-10 m thick forming ribbed (Rogen) moraines.

environments; lithic composition generally reflects underlying bedrock.

places; large features mainly cored by debris-rich relict glacier ice.

Till veneer: 0.5-2 m thick and discontinuous.

places veneered by thin till, commonly bouldery.

Geological boundary (defined, assumed)

Areas covered by perennial icefields during the Little Ice Age (indicated by a white pattern)

Subglacial and proglacial meltwater channel (large, small)

Deepwater proglacial silt blankets: silt, clay silt, and fine sand with dropstones and

SURFICIAL DEPOSITS QUATERNARY HOLOCENE

1987: Geology and resource potential of a proposed national park, Bylot Island and northwest Baffin Island, Northwest Territories; Geological Survey of Canada, Paper 87-17, 31 p.

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