Natural Resources Canada | Ressources naturelles Canada

2nd EDITION

CANADIAN GEOSCIENCE MAP 74

SURFICIAL GEOLOGY

ICEBOUND LAKES (SOUTHWEST)

Baffin Island, Nunavut
NTS 37-G/3, NTS 37-G/4, NTS 37-G5, and NTS 37-G6

Map Information Document

Preliminary

Geological Survey of Canada
Canadian Geoscience Maps

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Surficial geology, Icebound Lakes (Southwest), Baffin Island, Nunavut
NTS 37-G/3, NTS 37-G/4, NTS 37-G5, and NTS 37-G6

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1:100 000

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ABSTRACT

In 2002, 2003 and 2005, the Canada Nunavut Geoscience Office and the Geological Survey of Canada, in collaboration with Polar Continental Shelf Program, Dalhousie University, and University of Alberta, undertook studies of northern Baffin Island to provide an improved understanding of the distribution, nature and chemistry of surficial materials, and glacial history of this region, much of which is extensively covered by thick glacial deposits. Widespread till blanket and hummocky till are common in the map area, and locally meltwater channels dissected the till blanket. Ponding of glacial meltwater resulted in deposition of glaciolacustrine sediments. Some of the smaller preserved glaciers are likely Holocene in age, rather than remnants from the continental ice sheet (Pleistocene), like the Barnes Ice Cap. A complex glacial history resulted from

overprinting of both erosive and non-erosive basal thermal regimes at various stages of the deglaciation, as well as overprinting of Last Glacial Maximum (LGM)-related geomorphology.

RÉSUMÉ

En 2002, 2003 et 2005, le Bureau géoscientifique Canada-Nunavut et la Commission géologique du Canada, en collaboration avec le Programme du plateau continental polaire et les universités Dalhousie et de l'Alberta, ont poursuivi des études dans le nord de l'île de Baffin afin d'obtenir une meilleure compréhension de la distribution, de la nature et de la géochimie des matériaux superficiels, ainsi que de l'histoire glaciaire de cette région largement couverte d'épais dépôts glaciaires. La présence d'une nappe étendue de till et de till bosselé est commune dans la région cartographique et, par endroits, des chenaux d'eau de fonte entaillent la nappe de till. La retenue des eaux de fonte a permis le dépôt de sédiments glaciolacustres. Certains des glaciers mineurs subsistants datent vraisemblablement de l'Holocène, plutôt que de constituer des vestiges de la calotte glaciaire continentale (inlandsis du Pléistocène), comme la calotte glaciaire de Barnes. L'histoire glaciaire complexe de la région est la conséquence de la superposition des effets érosifs et non érosifs des régimes thermiques à la base du glacier à diverses étapes de la déglaciation, qui se superposent à la géomorphologie reliée au dernier pléniglaciaire.

ABOUT THE MAP

General Information

Authors: E.C. Little, P.J. Holme, and D.E. Kerr

Geology by E.C. Little and P.J. Holme in 2002, 2003 and 2005, with additional air photo interpretation by D.E. Kerr in 2011

Geological compilation by D.E. Kerr, 2011

Geology conforms to Surficial Data Model v. 2.0

Geomatics and cartography by G.S. Hanna

Joint initiative of the Geological Survey of Canada and Canada-Nunavut Geoscience Office, conducted under the auspices of Natural Resources Canada's Geo-mapping for Energy and Minerals (GEM) program

Map projection Universal Transverse Mercator, zone 17. North American Datum 1983

Base map at the scale of 1:50 000 from Natural Resources Canada, with modifications. Elevations in feet above mean sea level

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

Mean magnetic declination 2015, 35°09'W, decreasing 42.6' annually. Readings vary from 33°59'W in the SW corner to 36°13'W in the NE corner of the map.

This map is not to be used for navigational purposes.

Title photograph: Glaciated terrain, Icebound Lakes map sheet, Baffin Island, Nunavut. Photograph by E.C. Little. 2012-005

The Geological Survey of Canada welcomes corrections or additional information from users.

Data may include additional observations not portrayed on this map. *See* documentation accompanying the data.

This publication is available for free download through GEOSCAN (http://geoscan.nrcan.gc.ca/).

Preliminary publications in this series have not been scientifically edited.

Map Viewing Files

The published map is distributed as a Portable Document File (PDF), and may contain a subset of the overall geological data for legibility reasons at the publication scale.

About the Geology

Author Contact

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Coordinate System

Projection: Universal Transverse Mercator
Units: metres
Zone: 17
Horizontal Datum: NAD83
Vertical Datum: mean sea level

Bounding Coordinates

Western longitude: 80°00'00"W
Eastern longitude: 78°00'00"W
Northern latitude: 71°30'00"N

Southern latitude: 71°00’00”N

Data Model Information

Surficial

The Geological Survey of Canada (GSC) through the Geomapping for Energy and Minerals Program (GEM) has undertaken the Geological Map Flow to develop protocols for the collection, management (compilation, interpretation), and dissemination of surficial and bedrock geology data and map information. To this end, a data model has been created.

The Surficial Data Model (SDM) was designed using ESRI geodatabase architecture. The XML workspace document provided can be imported into a geodatabase, and the geodatabase will then be populated with the feature datasets, feature classes, tables, relationship classes, subtypes and domains.

Shapefile and table (.dbf) versions of the data are included within the data. Column names have been simplified and the text values have been maintained within the shapefile attributes. The direction columns are numerical, to display rotation for points, and the symbol fields will hold the correct values to be matched to the appropriate style file.

For a more in depth description of the data model please refer to the official publication:

Deblonde, C., Plouffe, A., Eagles, S., Everett, D., Huntley, D.H., Inglis, E., Kerr, D.E., Moore, A., Parent, M., Robertson, L., Smith, I.R., St-Onge, D.A., and Weatherston, A., 2014. Science language for an integrated Geological Survey of Canada data model for surficial geology maps, version 2.0; Geological Survey of Canada, Open File 7631, 464 p. doi:10.4095/294225

LICENCE AGREEMENT

ACCORD DE LICENCE