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# CANADIAN GEOSCIENCE MAP 205 CNGO OPEN FILE MAP 2014-01

SURFICIAL GEOLOGY

## WARD INLET

Baffin Island, Nunavut



Map Information  
Document

Preliminary



Canadian  
Geoscience Maps

2014



CANADA-NUNAVUT  
GEOSCIENCE OFFICE  
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BUREAU GÉOSCIENTIFIQUE  
CANADA-NUNAVUT  
KANATAMI-NUNAVUMI  
GEOSCIENCE TITIGAKVIIT

Canada

## **PUBLICATION**

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Canada-Nunavut Geoscience Office  
Open File Map 2014-01

### **Title**

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1:125 000

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### **Cover Illustration**

Glacially-eroded bedrock and marine beach sediments, Frobisher Bay, Nunavut.  
Photograph by T. Tremblay. 2014-214

## **ABSTRACT**

In 2012, field work was conducted with the objective of mapping surficial sediments on southern Hall Peninsula (Tremblay et al., 2013 and 2014). On the plateau, the glacier was frozen to its base for most of the last glaciation, and glacial erosion was rare. The regolith cover is probably of pre-Quaternary age (Neogene). Glacial erosion increases gradually from the plateau toward the coast. During the last glacial maximum, an ice stream flowed through Frobisher Bay toward the south-east. On the southern coast, the ice flow concentrated in glacial valleys, fiords and cirques. In the Hamlen Bay area, a northward glacial re-advance transporting carbonate till occurs before 10.8 14C ka (Miller, 1980). In the study area, deglaciation occurred between 10.8 and 9 14C ka. The

Hall Peninsula moraine dammed proglacial lakes in the main upslope valleys (Miller, 1985; Stravers et al., 1992; Kaufman et al., 1993).

## **RÉSUMÉ**

En 2012, des travaux de terrain ont été effectués avec pour objectif de cartographier les sédiments de surface sur la Péninsule de Hall (Tremblay et al., 2013 et 2014). Sur le plateau, le glacier était à base froide pendant la majeure partie de la dernière glaciation, et les marques d'érosion glaciaire sont rares. Un régolithe d'âge Néogène recouvre localement le plateau. Les marques d'érosion glaciaire augmentent graduellement du plateau vers la côte. Pendant le dernier maximum glaciaire, un courant de glace s'écoulait vers le sud-est dans la Baie de Frobisher. La côte méridionale est pourvue de cirques, vallées glaciaires et fiords. Dans la Baie de Hamlen, un écoulement glaciaire vers le nord date d'avant 10,8 14C ka (Miller, 1980). La déglaciation du secteur est limitée par les dates 10,8 et 9 14C ka. La moraine de Hall a bloqué des lacs proglaciaires dans les vallées du plateau (Miller, 1985; Stravers et al., 1992; Kaufman et al., 1993).

## **ABOUT THE MAP**

### **General Information**

Authors: T. Tremblay<sup>1</sup>, J. Leblanc-Dumas<sup>2</sup> and M. Allard<sup>2</sup>

<sup>1</sup>Canada-Nunavut Geoscience Office

<sup>2</sup>Université Laval

This map was produced by the Canada-Nunavut Geoscience Office in co-operation with Natural Resources Canada.

Geology by T. Tremblay, 2012-2013

Geology conforms to  
Surficial Data Model v. 2.0

Geomatics by T. Tremblay and C. Gilbert

Cartography by C. Gilbert

Initiative of the Canada-Nunavut Geoscience Office, conducted under the auspices of the Hall Peninsula Integrated Geoscience Project, supported by CanNor's Strategic Investment for Northern Economic Development (SINED) program.

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Map projection Universal Transverse Mercator, zone 19.  
North American Datum 1983

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

Shaded relief image derived from the digital elevation model supplied by the Canada-Nunavut Geoscience Office. Illumination: azimuth 315°, altitude 45°, vertical factor 1x

Mean magnetic declination 2014, 29°09'W, decreasing 24.2' annually. Readings vary from 28°25'W in the SW corner to 29°51'W in the NE corner of the map.

The Geological Survey of Canada and the Canada-Nunavut Geoscience Office 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/>) and the Canada-Nunavut Geoscience Office (<http://cngo.ca>).

This map is not to be used for navigational purposes.

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**

### **Acknowledgments**

This work was part of the 2012–2014 Hall Peninsula Integrated Geoscience Program (HPIGP), led by the Canada-Nunavut Geoscience Office (CNGO) in collaboration with the Government of Nunavut, Aboriginal Affairs and Northern Development Canada, and the Geological Survey of Canada. Preparation and interpretation of surficial mapping, glacial history and geomorphology was enhanced by discussions with M. Ross (University of Waterloo), C. Johnson (University of Waterloo), R. Paulen (Geological Survey of Canada), J. Gosse (Dalhousie University), D. Mate (CNGO), D. Kerr (Geological Survey of Canada) and M. Allard (Université Laval). Surficial mapping was prepared using 3D technology with the assistance of C. Gilbert (CNGO) and M. Boutin (Institut national de la recherche scientifique, LCNP).

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## Author Contact

Questions, suggestions, and comments regarding the geological information contained in the data sets should be addressed to:

T. Tremblay  
Canada-Nunavut Geoscience Office  
1106 Inuksugait, first floor, P.O. Box 2319  
Iqaluit, Nunavut X0A 0H0  
[Tommy.Tremblay@NRCan.gc.ca](mailto:Tommy.Tremblay@NRCan.gc.ca)

## Coordinate System

Projection: Universal Transverse Mercator  
Units: metres  
Zone: 19  
Horizontal Datum: NAD83  
Vertical Datum: mean sea level

## **Bounding Coordinates**

Western longitude: 68°00'00" W

Eastern longitude: 66°00'00" W

Northern latitude: 64°00'00" N

Southern latitude: 63°00'00" N

## **Data Model Information**

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

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