Natural Resources Canada | Ressources naturelles Canada

CANADIAN GEOSCIENCE MAP 312

SURFICIAL GEOLOGY

DOUGLAS HARBOUR (SOUTH)

Nunavut

NTS 56-H south

Map Information Document

Preliminary

Celebrating 175 yrs

Geological Survey of Canada
Canadian Geoscience Maps

2017

Canada

MAP NUMBER

Natural Resources Canada, Geological Survey of Canada
Canadian Geoscience Map 312 (Preliminary)

TITLE

Surficial geology, Douglas Harbour (south), Nunavut, NTS 56-H south

SCALE

1:100 000

CATALOGUE INFORMATION

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ABSTRACT

The Douglas Harbour south map area is characterized by three terrain types differentiated by surficial materials and associated landforms (Fig. 1). The largest terrain type, situated south of the Keewatin Ice Divide, is covered by till deposits interspersed with southeast- to south-southeast trending subglacial meltwater corridors filled with eskers, hummocks, and reworked till. Streamlined till and striations indicate ice flow to the east-southeast and southeast in this area. Ice retreat to the northwest is indicated by end moraines, eskers, and various meltwater features (Fig. 2). Under and north of the divide, the prevalent surface material consists of bouldery till commonly scoured by proglacial and lateral meltwater channels flowing towards Wager Bay (Fig. 2). Such attributes, plus the absence of other glacial features, are thought to represent the position of the divide under a cold-based regime. Along the shores of Wager Bay, wave-washed bedrock surfaces and marine littoral deposits occur below the limit of the post-glacial sea at 113–130 m a.s.l.

RÉSUMÉ

La région cartographique de Douglas Harbour Sud se caractérise par trois types de terrains, qui se distinguent par la nature des matériaux de surface et des formes de relief associées (Fig. 1). Le terrain le plus étendu, situé au sud de la ligne de partage glaciaire du Keewatin, est couvert de dépôts de till, entrecoupés par des couloirs d'eau de fonte sous-glaciaires dirigés vers le sud-est et le sud-sud-est et remplis d'eskers, de petits monticules de diamicton et de dépôts de till remanié. Le till profilé et les stries indiquent un écoulement glaciaire dirigé vers l'est-sud-est et le sud-est dans ce secteur. Les moraines frontales, les eskers et les diverses formes associées aux eaux de fonte témoignent d'un retrait glaciaire vers le nord-ouest (Fig. 2). Au nord et sous la ligne de partage glaciaire, le matériau de surface prédominant se compose de till blocailleux communément incisé par des chenaux d'eau de fonte proglaciaires et latéraux, dont les eaux s'écoulaient vers la baie Wager (Fig. 2). Ces attributs, ainsi que l'absence d'autres caractéristiques glaciaires, témoigneraient de la position de la ligne de partage glaciaire sous un régime de glacier à base froide. Le long des rives de la baie Wager, des surfaces du substratum rocheux lessivées par les vagues et des dépôts marins littoraux sont présents sous la limite de la mer postglaciaire située à 113–130 m au-dessus du niveau de la mer.

SHEET 1 OF 1, SURFICIAL GEOLOGY

GENERAL INFORMATION

Authors: I. Randour and I. McMartin

Geology based on aerial photography interpretation, LANDSAT TM 7 and SPOT imagery by I. Randour and I. McMartin and on field work in 2015 and 2016 by I. Randour, I. McMartin and M. Roy.

Geology conforms to Surficial Data Model v. 2.3

Geomatics by L. Robertson.

Cartography by M.J. Baldock

Initiative of the Geological Survey of Canada, conducted under the auspices of the Tehery-Wager project (GEM2) as part of Natural Resources Canada's Geo-mapping for Energy and Minerals (GEM) program

Logistical support provided by the Polar Continental Shelf Program as part of its mandate to promote scientific research in the Canadian north. PCSP 05315 and 05916.

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

Map projection Universal Transverse Mercator, zone 16.
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

Ukkusiksalik National Park boundary from Parks Canada

Mean magnetic declination 2017, 13°54'W, decreasing 13.4' annually. Readings vary from 12°03'W in the SW corner to 15°45'W in the NE corner of the map.

This map is not to be used for navigational purposes.

Title photograph: Meltwater channel which emptied into proto-Wager Bay during deglaciation, Wager Bay coast, Nunavut. Photograph by I. Randour. 2017-046

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

Data may include additional observations not portrayed on this map. *See* map info document accompanying the downloaded data for more information about this publication.

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.

Cartographic Representations Used on Map

This map utilizes ESRI Cartographic Representations in order to customize the display of standard GSC symbols for visual clarity on the PDF of the map only. The digital data still contains the original symbol from the standard GSC symbol set. The following legend features have Cartographic Representations applied:
Striation, well defined; sense unknown
Striation, well defined; sense known

Acknowledgments

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Selected References

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Dredge, L.A., McMartin, I., and Campbell, J.E., 2013a. Reconnaissance surficial geology, Yellow Bluff (west), Nunavut, NTS 46-D west; Geological Survey of Canada, Canadian Geoscience Map 145 (preliminary), scale1:100 000. https://doi.org/10.4095/293047

Dredge, L.A., McMartin, I., and Campbell, J.E., 2013b. Reconnaissance surficial geology, Daly Bay (south) and Cape Fullerton (north), Nunavut, NTS 56-A south and NTS 55-P north; Geological Survey of Canada, Canadian Geoscience Map 146 (preliminary), scale 1:100 000. https://doi.org/10.4095/293045

Dredge, L.A., McMartin, I., and Campbell, J.E., 2013c. Reconnaissance surficial geology, Daly Bay (north), Nunavut, NTS 56-A north; Geological Survey of Canada, Canadian Geoscience Map 147 (preliminary), scale 1:100 000. https://doi.org/10.4095/293046

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McMartin, I., Byatt, J., Randour, I., and Day, S.J.A., 2015a. Report of 2015 activities for regional surficial mapping, till and stream sediment sampling in the Tehery-Wager GEM 2 Rae Project area; Geological Survey of Canada, Open File 7966, 14 p. https://doi.org/10.4095/297440

McMartin, I., Campbell, J.E., and Dredge, L.A., 2015b. Surficial geology, Curtis Lake north, Nunavut, NTS 56-I north; Geological Survey of Canada, Canadian Geoscience Map 204 (preliminary), scale 1:100 000. https://doi.org/10.4095/295851

McMartin, I., Campbell, J.E., and Dredge, L.A., 2017. Surficial geology, Curtis Lake south, Nunavut, NTS 56-I south; Geological Survey of Canada, Canadian Geoscience Map 294 (preliminary), scale 1:100 000. https://doi.org/10.4095/299346

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ADDITIONAL INFORMATION

The Additional Information folder of this product's digital download contains figures and tables that appear in the map surround as well as additional geological information not depicted on the map, nor this document, nor the geodatabase.
-PDF of each figure/table that appears in the CGM surround.

AUTHOR CONTACT

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COORDINATE SYSTEM

Projection: Universal Transverse Mercator
Units: metres
Zone: 16
Horizontal Datum: NAD83
Vertical Datum: mean sea level

Bounding Coordinates

Western longitude: 90°00’00”W
Eastern longitude: 88°00’00”W
Northern latitude: 65°50’00”N
Southern latitude: 65°00’00”N

Software Version

Data has been originally compiled and formatted for use with ArcGIS™ desktop version 10.2.2 developed by ESRI®.

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., Cocking, R.B., Kerr, D.E., Campbell, J.E., Eagles, S., Everett, D., Huntley, D.H., Inglis, E., Parent, M., Plouffe, A., Robertson, L., Smith, I.R., and Weatherston, A., 2017. Surficial Data Model, version 2.3.0: revisions to the science language of the integrated Geological Survey of Canada data model for surficial geology maps; Geological Survey of Canada, Open File 8236, 1 .zip file. https://doi.org/10.4095/302717