References

Craig, B.G., 1961. Surficial geology, northern District of Keewatin; Geological Survey of Canada, Map 7-1961, scale 1:1 013 760. https://doi.org/10.4095/108770

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., 2018. Surficial Data Model: the science language of the integrated Geological Survey of Canada data model for surficial geology maps; Geological Survey of Canada, Open File 8236, ver. 2.3.14, 1 .zip file. https://doi.org/10.4095/308178

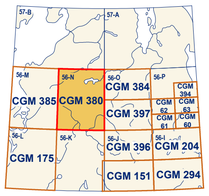
Thomas, R.D. and Dyke, A.S., 1982. Surficial geology, Darby Lake, District of Keewatin; Geological Survey of Canada, Map 8-1981, scale 1:250 000. https://doi.org/10.4095/109303

Abstract

This new surficial geology map product represents the conversion of Preliminary Map 8-1981 (Thomas and Dyke, 1982) and its legend, using the Geological Survey of Canada's Surficial Data Model (SDM version 2.3.14) (Deblonde et al., 2018). All geoscience knowledge and information from Preliminary Map 8-1981 that conformed to the current SDM were maintained during the conversion process. Supplementary, legacy information was added to complement the converted geoscience data. This consists of striations from Craig (1961). It is identified in the accompanying geodatabase. The purpose of converting legacy map data to a common science language and common legend is to enable and facilitate the efficient digital compilation, interpretation, management, and dissemination of geological map information in a structured and consistent manner. This provides an effective knowledge-management tool designed around a geodatabase that can expand, following the type of information to appear on new surficial geology maps.

Résumé

Ce nouveau produit cartographique de la géologie des formations superficielles correspond à la conversion de la Carte préliminaire 8-1981 (Thomas et Dyke, 1982) et de sa légende, en se servant du Modèle de données pour les formations superficielles (MDFS version 2.3.14) de la Commission géologique du Canada (Deblonde et al., 2018). Toutes les connaissances et l'information de nature géoscientifique de la Carte préliminaire 8-1981 qui sont en conformité avec le modèle de données ont été conservées pendant le processus de conversion. Des éléments d'information existants ont été ajoutés en complément aux données géoscientifiques converties. Il s'agit de stries glaciaires tirées de Craig (1961). Ces entités sont identifiées dans la géodatabase du présent produit cartographique. Le but de la conversion de cartes publiées antérieurement suivant un langage scientifique commun et une légende commune est de permettre et de faciliter la compilation, l'interprétation, la gestion et la diffusion efficaces de l'information géologique cartographique en mode numérique de façon structurée et cohérente. Cette façon de faire offre un outil efficace de gestion des connaissances élaboré à l'aide d'une géodatabase qui pourra évoluer suivant le type d'information à paraître sur les nouvelles cartes de la géologie des formations superficielles.



National Topographic System reference and index to adjoining published Geological Survey of Canada maps

Catalogue No. M183-1/380-2018E-PDF
ISBN 978-0-660-27922-0
https://doi.org/10.4095/311349

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CANADIAN GEOSCIENCE MAP 380

SURFICIAL GEOLOGY

DARBY LAKE

Nunavut

NTS 56-N

1:250 000

QUATERNARY

POST LAST GLACIATION

NONGLACIAL ENVIRONMENT

EOLIAN SEDIMENTS: silt and fine sand, moderately sorted and laminated, with cross-stratification, ripple marks, and finely disseminated organic material in places; less than 2 m thick; deposits too small to be mapped are generally included with units Ap, At, GFc, and GF.

- E — **Eolian sediments, undifferentiated:** silt and fine sand; less than 2 m thick; unvegetated; presently active.

ALLUVIAL SEDIMENTS: silt, sand, and fine gravel; moderately to well sorted but commonly interstratified with beds of distinctly different grain sizes; crossbedding, scour-and-fill structures, and ripple marks common; up to 5 m thick.

- Ap — **Floodplain sediments:** silt, sand, and gravel; variable thickness; seasonally flooded, unvegetated.
- At — **Alluvial terraced sediments:** silt, sand, and gravel; variable thickness; above present flood zone, vegetated.

LAST GLACIATION

PROGLACIAL AND GLACIAL ENVIRONMENT

MARINE SEDIMENTS: silt, sand, and in places, clay or gravel; generally less than 10 m but up to 75 m thick; deposited in high stand of the sea during glacial retreat.

- Mr — **Beach sediments:** sand and silt or gravel, horizontal and cross-stratified; commonly less than 1 m thick; occurs as beaches overlying bedrock.
- Mn — **Littoral and nearshore sediments:** sand and silt or gravel, horizontal and cross-stratified; from 2 m to a few metres thick; occurs as beaches and terraces; may locally overlie bedrock.
- Mo — **Offshore sediments:** silt and clay, commonly rhythmically bedded; generally less than 10 m but up to 75 m thick; deposited in deep-water environments.
- Mv — **Marine veneer:** silt, sand, and in places clay or gravel; commonly less than 1 m thick; deposited in deep-water environments; generally overlying bedrock.

GLACIOLACUSTRINE SEDIMENTS: silty fine sand to gravelly coarse sand; generally 1–2 m but up to 10 m thick; poorly sorted and stratified; deposited in proglacial lakes.

- GLn — **Littoral and nearshore sediments:** sand, with well developed cross-stratification; variable thickness; occurs as beaches and terraces; may locally overlie bedrock.
- GLv — **Glaciolacustrine veneer:** sand; commonly less than 1 m thick; generally overlies bedrock; appears only as secondary unit in complex polygons.

GLACIOFLUVIAL SEDIMENTS: sand and gravel deposited in, or around, or near a glacier, largely as a result of meltwater stream flow.

- GFc — **Ice-contact sediments:** sand and gravel, irregular to cross-stratified with poor to moderate sorting; up to 30 m thick; occurs as ice-contact deltas, sinuous ridges, isolated hummocks, local blanket deposits, and esker and kame complexes; may overlie bedrock locally.
- GFv — **Glaciofluvial veneer:** sand and gravel; commonly less than 1 m thick; generally overlies bedrock.
- GF — **Glaciofluvial sediments, undifferentiated:** sand and gravel, massive to well stratified and sorted; up to 70 m thick; with smooth, flat to inclined surfaces; occurs as deltas, fans, or terraced valley-fill deposits.

GLACIAL ENVIRONMENT

GLACIAL SEDIMENTS (TILL): poorly sorted till (diamicton) deposited directly by glacial ice.

- Tv — **Till veneer:** silty, gravelly sand (diamicton) with less than 10% clay, nonsorted, nonstratified; commonly less than 1 m thick overlying bedrock; boulders common on the surface; occurs as veneer on underlying bedrock or as thin hummocks and ridges (moraines); where washed scoured lag overlay is present, the upper metre is abnormally sandy due to either removal of fines by wave action or intermixing of marine, glaciolacustrine, or glaciofluvial sand.
- T — **Till, undifferentiated:** silty, gravelly sand (diamicton) with less than 10% clay, nonsorted, nonstratified, compact but unlithified; generally 7 m up to 20 m thick; boulders up to 2 m long common on the surface; occurs mainly as blanket on underlying bedrock or as hummocks and ridges (moraines); where washed scoured lag overlay is present, the upper metre is abnormally sandy due to either removal of fines by wave action or intermixing of marine, glaciolacustrine, or glaciofluvial sand.

PRE-QUATERNARY

- R — **Bedrock, undifferentiated:** Precambrian igneous and metamorphic crystalline rock of variable composition and structure.

Complex units: two map-unit designators separated by a dot (.) are used where the surficial cover forms a complex area and the units are too small to be mapped individually (e.g. Tv.GFc designates an area of till veneer with numerous patches of ice-contact sediments).

Stratigraphic relationship: two map-unit designators separated by a slash (/) are used where a stratigraphic relationship is observed or confidently inferred (e.g. Tv/R indicates till veneer overlying bedrock).

- Dune crest
- Area of reworked sediments
- Kettle
- Geological contact, defined
- Direction of recent eolian movement of sand
- Beach crest
- Meltwater channel:
  - *Minor, paleocurrent direction unknown*
  - *Minor, paleocurrent direction known*
- Moraine ridge:
  - *Minor*
  - *Major, unspecified*
- Ice-contact scarp
- Esker:
  - *Paleocurrent direction unknown*
  - *Paleocurrent direction known*
- Drumlinoid, length not mapped to scale
- Crag-and-tail, length not mapped to scale
- Delta, paleocurrent direction known
- Ice-contact delta, paleocurrent direction known
- Striation, ice-flow direction known
- Shallow drill-hole location
- Station location:
  - *Remote observation*
  - *Ground observation*

Recommended citation
Geological Survey of Canada, 2019. Surficial geology, Darby Lake, Nunavut, NTS 56-N; Geological Survey of Canada, Canadian Geoscience Map 380 (Surficial Data Model v. 2.3.14 conversion of Map 8-1981), scale 1:250 000. https://doi.org/10.4095/311349

CANADIAN GEOSCIENCE MAP 380

Geological Survey of Canada
Canadian Geoscience Maps

Author: Geological Survey of Canada

Geology by R.D. Thomas (east half) and A.S. Dyke (west half), 1976 and 1977

Geological compilation by R.D. Thomas, 1981

Geology conforms to Surficial Data Model v. 2.3.14 (Deblonde et al., 2018).

Geological data conversion by D.E. Kerr, 2012 and 2017

Geomatics by S. Eagles and C.D. Stevens

Cartography by D. Viner

Scientific editing by A. Weatherston

SURFICIAL GEOLOGY
DARBY LAKE
Nunavut
NTS 56-N

5 0 5 10 15 20 km

Initiative of the Geological Survey of Canada, conducted under the auspices of Natural Resources Canada's Geo-mapping for Energy and Minerals (GEM) Program

Map projection Universal Transverse Mercator, zone 15 North American Datum 1983

Base map at the scale of 1:250 000 from Natural Resources Canada, with modifications.
Elevations in metres above mean sea level

Proximity to the North Magnetic Pole causes the magnetic compass to be erratic in this area.
Mean magnetic declination 2019, 10°28'W, decreasing 9.3' annually
Readings vary from 8°21'W in the SW corner to 12°38'W in the NE corner of the map.

This map is not to be used for navigational purposes.

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 (https://geoscan.nrcan.gc.ca/).

CANADIAN GEOSCIENCE MAP 380
SURFICIAL GEOLOGY
DARBY LAKE
Nunavut
NTS 56-N

Canada