

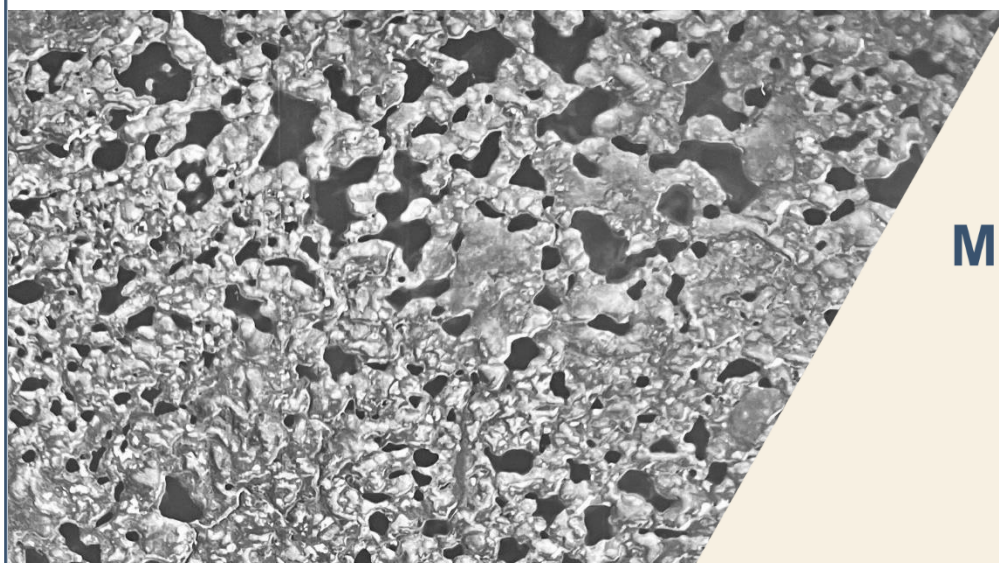


Natural Resources
Canada

Ressources naturelles
Canada

CANADIAN GEOSCIENCE MAP 453
RECONNAISSANCE SURFICIAL GEOLOGY
CAPE MACDONNEL

Northwest Territories
NTS 96-I



**Map Information
Document**

Geological Survey of Canada
Canadian Geoscience Maps

2022

Canada 



MAP NUMBER

Natural Resources Canada, Geological Survey of Canada
Canadian Geoscience Map 453

TITLE

Reconnaissance surficial geology, Cape MacDonnel, Northwest Territories, NTS 96-I

SCALE

1:125 000

CATALOGUE INFORMATION

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ABSTRACT

Preliminary surficial geology, based on airphoto interpretation of the Cape MacDonnel map area, records three glacial and landform terrains. First, ridged, hummocky tills dominate Big Spruce and Scented Grass hills between 300 and 650 m elevation. Second, undifferentiated till covers the lower flanks of Scented Grass and Big Spruce hills, also extending northeastward of the latter, where streamlined till occurs. Third, glaciolacustrine sediments are confined to some lowlands below 200 to 250 m, where they discontinuously cover various till units along the shores of Great Bear Lake. Variable ice flow and local stagnation characterizes glacial history. In northern regions, ice flowed southwestward and then veered northwestward, with evidence of local ice streaming. In east-central regions, flow was generally westward. In the southwest, flow was northwestward. Retreating and stagnating remnant ice deposited ridged and hummocky moraine, which may also coincide with cold-based ice. Glacial Lake McConnell inundated lowlands to at least 250 m a.s.l. in the east, and to 210 m in the west.

RÉSUMÉ

La cartographie préliminaire de la géologie des formations superficielles de la région cartographique de Cape MacDonnel, fondée sur l'interprétation de photos aériennes, rend compte de trois terrains glaciaires et des reliefs glaciaires qui les distinguent. Premièrement, du till à crêtes et du till bosselé dominant les collines Big Spruce et Scented Grass entre 300 et 650 m d'altitude. Deuxièmement, du till non différencié couvre les flancs inférieurs des collines Scented Grass et Big Spruce et se prolonge également au nord-est des collines Big Spruce, où du till profilé est présent. Troisièmement, des sédiments glaciolacustres sont confinés à certaines basses terres en dessous de 200 à 250 m, où ils recouvrent de façon discontinue diverses unités de till le long des rives du Grand lac de l'Ours. Un écoulement glaciaire variable et une stagnation locale caractérisent l'histoire glaciaire. Dans les régions du nord, la glace s'est écoulée vers le sud-ouest avant de s'incurver vers le nord-ouest, et on y relève, par endroits, des preuves du développement d'un courant glaciaire. Dans les régions du centre est, l'écoulement était généralement dirigé vers l'ouest, et dans le sud-ouest, vers le nord-ouest. La glace en retrait et stagnante a déposé du till à crêtes et du till bosselé, ce qui pourrait également coïncider avec l'existence de conditions d'un glacier à base froide. Le Lac glaciaire McConnell a ennoyé les basses terres jusqu'à au moins 250 m d'altitude à l'est, et à 210 m à l'ouest.

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SHEET 1 OF 1, RECONNAISSANCE SURFICIAL GEOLOGY

GENERAL INFORMATION

Author: D.E. Kerr

Geology by D.E. Kerr, 2020 and 2021, based on air photo interpretation of 1:68 000 scale NAPL air photos taken in June and July, 1953 and 1954

Geological data conforms to Surficial Data Model v. 2.4.0 (Deblonde et al., 2019).

Geomatics and cartography by L. Robertson

Scientific editing by L. Ewert

Initiative of the Geological Survey of Canada, conducted under the auspices of the Supporting Adaptation in Permafrost Regions project as part of Natural Resources Canada's Climate Change Geoscience program

Map projection Universal Transverse Mercator, zone 10
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

Mean magnetic declination 2022, 19°10'E, decreasing 15.9' annually
Readings vary from 19°27'E in the NW corner to 18°50'E in the SE corner of the map.

This map is not to be used for navigational purposes.

Title photograph: Pitted and ridged till, Scented Grass Hills, Northwest Territories. Photo from the National Air Photo Library. NAPL photo A12701-5

The Geological Survey of Canada welcomes corrections or additional information from users (gscpublications-cgcpublishations@nrcan-rncan.gc.ca).

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/>).

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.

REFERENCES

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., 2019. 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. 2.4.0, 1 .zip file.
<https://doi.org/10.4095/315021>

SUGGESTED READINGS

Craig, B.G., 1960. Surficial geology of north-central District of Mackenzie, Northwest Territories; Paper 60-18, Geological Survey of Canada, 8 p.
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Porsild, A.E., 1950. A biological exploration of Banks and Victoria Islands; The Arctic Circular, v. 3, no. 1, The Arctic Circle, p. 2–9. <https://doi.org/10.14430/arctic3951>

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COORDINATE SYSTEM

Projection: Universal Transverse Mercator

Units: metres

Zone: 10

Horizontal Datum: NAD83

Vertical Datum: mean sea level

BOUNDING COORDINATES

Western longitude: 122°00'00"W

Eastern longitude: 120°00'00"W

Northern latitude: 67°00'00"N

Southern latitude: 66°00'00"N

SOFTWARE VERSION

Data has been originally compiled and formatted for use with ArcGIS™ desktop version 10.8.2 developed by ESRI®.

DATA MODEL INFORMATION

Surficial

The Geological Survey of Canada (GSC) through the Geo-mapping 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., 2019. 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. 2.4.0, 1 .zip file. <https://doi.org/10.4095/315021>