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CANADIAN GEOSCIENCE MAP 450
RECONNAISSANCE SURFICIAL GEOLOGY
SLOAN RIVER

Northwest Territories–Nunavut
NTS 86-K



**Map Information
Document**

Geological Survey of Canada
Canadian Geoscience Maps

2022

Canada 



MAP NUMBER

Natural Resources Canada, Geological Survey of Canada
Canadian Geoscience Map 450

TITLE

Reconnaissance surficial geology, Sloan River, Northwest Territories–Nunavut,
NTS 86-K

SCALE

1:125 000

CATALOGUE INFORMATION

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ABSTRACT

The glaciated landscape of the Sloan River map area records evidence of old southwestward ice flow, followed by younger dominant northwestward flow in northernmost areas, and westward to west-southwestward flow in central and southern regions. Glacially and meltwater-scoured bedrock dominates the map area, with various till deposits discontinuously covering northern regions. Eskers and other glaciofluvial sediments define a poorly developed meltwater system, ranging in orientation from westward to northwestward. Meltwater channels show broader ranges of paleoflow directions in topographic highs. During deglaciation, which began about 10.5 ka BP, discontinuous north-south-trending recessional moraines were formed, defining a former margin of stagnating ice. Moraines in the northeast may represent the northern extension of the Forcier Moraine. Glaciolacustrine sediments associated with glacial Lake McConnell occur in the west, up to 300 m elevation. Other unrelated, isolated glaciolacustrine deltas, including those in the Coppermine River valley, occur further east up to 425 m elevation.

RÉSUMÉ

Le paysage glaciaire de la région cartographique de Sloan River conserve les traces d'un ancien écoulement glaciaire dirigé vers le sud-ouest, qui a été suivi d'un écoulement dominant plus récent vers le nord-ouest dans les secteurs les plus au nord, et d'un écoulement de direction ouest à ouest-sud-ouest dans les régions centrale et sud. Un substratum rocheux affouillé par les glaces et les eaux de fonte domine la région cartographique, avec divers dépôts de till recouvrant de façon discontinue les régions du nord. Des eskers et d'autres sédiments fluvioglaciaires définissent un système d'eau de fonte peu développé, dont la direction varie de l'ouest au nord-ouest. Des chenaux d'eau de fonte montrent des directions de paléoécoulement plus variées sur les hauteurs topographiques. Au cours de la déglaciation qui a commencé vers 10,5 ka BP, des moraines de retrait discontinues d'orientation nord-sud ont été formées, définissant une ancienne marge de glace stagnante. Des moraines dans le nord-est pourraient représenter le prolongement nord de la Moraine de Forcier. Des sédiments glaciolacustres associés au Lac glaciaire McConnell sont présents dans l'ouest, jusqu'à 300 m d'altitude. D'autres deltas glaciolacustres isolés non apparentés, dont ceux de la vallée de la rivière Coppermine, sont présents plus à l'est, jusqu'à 425 m d'altitude.

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SHEET 1 OF 1, RECONNAISSANCE SURFICIAL GEOLOGY

GENERAL INFORMATION

Author: D.E. Kerr

Geology based on airphoto interpretation of 1:70 000 scale NAPL airphotos by D.E. Kerr, 2020. Striation measurements from Craig et al. (1960), and Normandeau and McMartin (2013).

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

Geomatics by L. Robertson

Cartography by D. Viner

Scientific editing by L. Ewert

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

Map projection Universal Transverse Mercator, zone 11
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, 17°54'E, decreasing 14.0' annually
Readings vary from 17°23'E in the SE corner to 18°22'E in the NW corner of the map.

This map is not to be used for navigational purposes.

Title photograph: Scoured outcrop, Sloan River map area, Northwest Territories.
Photograph by P. Normandeau. NRCan photo 2021-196

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

Craig, B.G., Davison, W.L., Fraser, J.A., Fulton, R.J., Heywood, W.W., and Irvine, T.N., 1960. Surficial geology, north-central District of Mackenzie, Northwest Territories; Geological Survey of Canada, Preliminary Map 24-1960, scale 1:1 013 760. <https://doi.org/10.4095/108725>

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>

Normandeau, P.-X. and McMartin, I., 2013. Composition of till and bedrock across the Great Bear magmatic zone: Quaternary field database and analytical results from the GEM IOCG-Great Bear Project; Geological Survey of Canada, Open File 7307, 26 p. <https://doi.org/10.4095/292560>

SUGGESTED READINGS

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Norrie, J.P., 1931. Prospecting and exploration of Dominion Explorers Limited, in the Great Bear Lake-Coppermine River area; reprinted from the Canadian Mining and Metallurgical Bulletin, v. 227, 14 p.

Prest, V.K., 1984. Glacial geology of the Bebensee Lake map area, (NTS 86-M), Great Bear Lake region, Northwest Territories; *in* Contributions to the geology of the Northwest Territories, v. 2, Economic Geology Series 1985-6, J. Brophy, (ed.), Indian and Northern Affairs Canada, p. 63–70.

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AUTHOR CONTACT

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

Geological Survey of Canada
601 Booth Street
Ottawa ON
K1A 0E8

gscpublications-cgcpublishations@nrcan-rncan.gc.ca

COORDINATE SYSTEM

Projection: Universal Transverse Mercator

Units: metres

Zone: 11

Horizontal Datum: NAD83

Vertical Datum: mean sea level

BOUNDING COORDINATES

Western longitude: 118°00'00"W

Eastern longitude: 116°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 10.7.1 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>