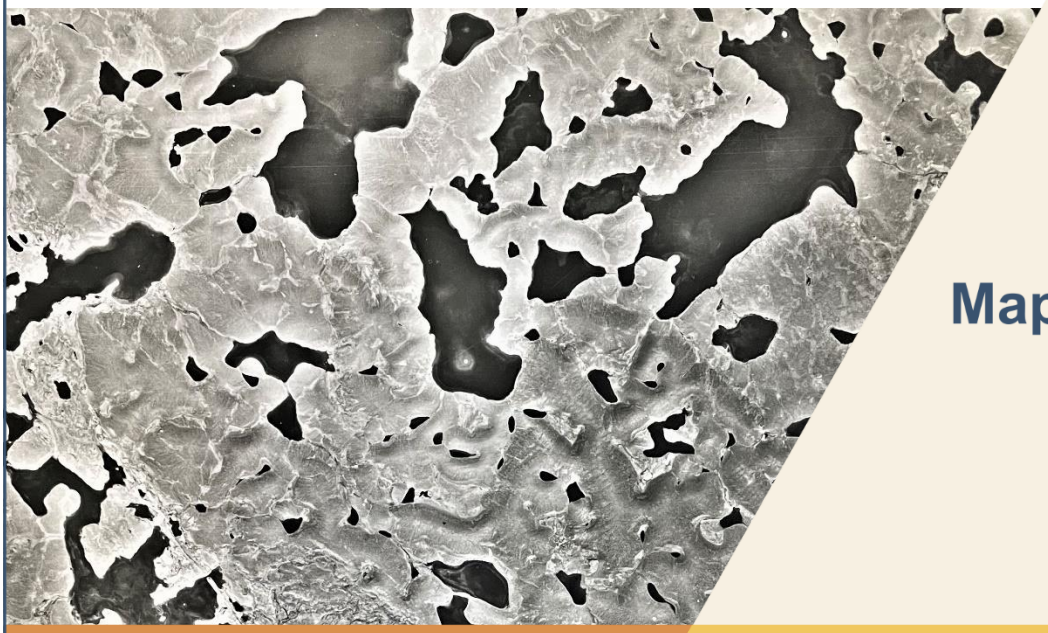
Natural Resources Canada | Ressources naturelles Canada

CANADIAN GEOSCIENCE MAP 446

RECONNAISSANCE SURFICIAL GEOLOGY

NOSE LAKE

Nunavut–Northwest Territories
NTS 76-F



Map Information Document

Geological Survey of Canada
Canadian Geoscience Maps

2022

Canada

MAP NUMBER

Natural Resources Canada, Geological Survey of Canada
Canadian Geoscience Map 446

TITLE

Reconnaissance surficial geology, Nose Lake, Nunavut–Northwest Territories, NTS 76-F

SCALE

1:125 000

CATALOGUE INFORMATION

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ABSTRACT

The oldest regional ice flow in the Nose Lake map area is southwestward. Subsequent northwestward flow is inferred from streamlined bedrock in central and eastern regions. The final and youngest flow was southwestward in these same regions, recorded by an abundance of streamlined landforms in till blanket and bedrock. The western edge of this late active ice lobe is defined by recessional moraines, part of the Twin Jugs moraine, also marking the eastern limit of a broad band of hummocky till from downwasting ice. During deglaciation, short-lived proglacial lakes, identified by raised beaches and deltas, developed within parts of the river valleys of the Mara (420 to 410 m elevation), Hackett (445 to 395 m), and Storak (440 to 415 m). Lakes also formed west of Nose Lake (490 to 430 m elevation) and in the Contwoyto-Pellatt-Ghurka lake basins (470 to 450 m). Orientation of many eskers, associated subglacial meltwater corridors, and sheet drainage is variable, but can be perpendicular to local ice flow.

RÉSUMÉ

Le plus ancien écoulement glaciaire régional dans la région cartographique de Nose Lake était dirigé vers le sud-ouest. Un écoulement subséquent vers le nord-ouest est déduit des formes de relief profilées du substratum rocheux dans les régions du centre et de l'est. L'écoulement final, le plus récent, était dirigé vers le sud-ouest dans ces mêmes régions, comme en témoigne l'abondance de formes de relief profilées dans la nappe de till et le substratum rocheux. La bordure ouest de ce lobe glaciaire actif à un stade tardif est définie par des moraines de retrait et une partie de la moraine de Twin Jugs, qui marque également la limite est d'une large bande de till bosselé laissé par la fonte du glacier. Au cours de la déglaciation, des lacs proglaciaires de courte durée, qu'on reconnaît à la présence de plages et de deltas soulevés, se sont formés dans des parties des vallées des rivières Mara (de 420 à 410 m d'altitude), Hackett (de 445 à 395 m) et Storak (de 440 à 415 m). Des lacs se sont également formés à l'ouest du lac Nose (de 490 à 430 m d'altitude) et dans les bassins des lacs Contwoyto, Pellat et Ghurka (de 470 à 450 m). De nombreux eskers, les couloirs d'eau de fonte sous-glaciaires associés, ainsi que les traces d'écoulement en nappe des eaux présentent une orientation variable, mais peuvent être perpendiculaires à l'écoulement glaciaire local.

SHEET 1 OF 1, RECONNAISSANCE SURFICIAL GEOLOGY

GENERAL INFORMATION

Author: D.E. Kerr

Geology by D.E. Kerr based on airphoto interpretation in 2020 and 2021 of 1:60 000 scale photos taken in August 1957; striations from Campbell et al., 2021 and unpublished field manuscript map by W. Blake Jr., Operation Bathurst, 1962

Geological data 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 12
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, 12°38′E, decreasing 6.8′ annually
Readings vary from 11°40′E in the NE corner to 13°29′E in the SW corner of the map.

This map is not to be used for navigational purposes.

Title photograph: Hummocky till with morainal ridges, Nunavut. Photo from the National Air Photo Library. NAPL photo A15778-153

The Geological Survey of Canada welcomes corrections or additional information from users (gscpublications-cgcpublications@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.

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:

- Geomorphology lines
- Striation point symbols

Definition Queries Used on Map

This map utilizes definition queries in order to customize the display for visualization on the PDF of the map only and does not affect the digital data. The following features have a definition query applied:

- Field stations

References

Campbell, J.E., McMartin I., McCurdy, M.W., Godbout, P.-M., Tremblay, T., Normandeau, P.X., and Randour, I., 2021. Field data and till composition in the GEM-2 Rae Glacial Synthesis Activity field areas, Nunavut and Northwest Territories; Geological Survey of Canada, Open File 8808, 1 .zip file. https://doi.org/10.4095/328454

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

Aylsworth, J.M. and Shilts, W.W., 1989. Glacial features around the Keewatin ice divide: districts of Mackenzie and Keewatin; Geological Survey of Canada, Paper 88-24, 21 p. (2 sheets). https://doi.org/10.4095/127320

Blake, W., Jr., 1963. Notes on glacial geology, northeastern District of Mackenzie; Geological Survey of Canada, Paper 63-28, 12 p. https://doi.org/10.4095/101060

Author Contact

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

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K1A 0E8
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Coordinate System

Projection: Universal Transverse Mercator
Units: metres
Zone: 12
Horizontal Datum: NAD83
Vertical Datum: mean sea level

Bounding Coordinates

Western longitude: 110°00′00″W
Eastern longitude: 108°00′00″W
Northern latitude: 66°00′00″N
Southern latitude: 65°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