

**NATURAL RESOURCES CANADA
GEOLOGICAL SURVEY OF CANADA
CANADIAN GEOSCIENCE MAP 397**

**CANADA-NUNAVUT GEOSCIENCE OFFICE
OPEN FILE MAP 2023-01
SURFICIAL GEOLOGY**

ARROWSMITH RIVER SOUTH

Nunavut
NTS 56-O south

**Map Information
Document**

**Geological Survey of Canada
Canadian Geoscience Maps**

2023



**CANADA-NUNAVUT
GEOSCIENCE OFFICE**
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**BUREAU GÉOSCIENTIFIQUE
CANADA-NUNAVUT**
**KANATAMI-NUNAVUMI
GEOSCIENCE TITIGAKVIIT**



MAP NUMBER

Natural Resources Canada, Geological Survey of Canada
Canadian Geoscience Map 397

Canada-Nunavut Geoscience Office
Open File Map 2023-01

TITLE

Surficial geology, Arrowsmith River South, Nunavut, NTS 56-O south

SCALE

1:100 000

CATALOGUE INFORMATION

Catalogue No. M183-1/397-2023E-PDF
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Geological Survey of Canada, 2023. Surficial geology, Arrowsmith River south, Nunavut, NTS 56-O south; Geological Survey of Canada, Canadian Geoscience Map 397 (Surficial Data Model v. 2.3.14 conversion of OF 4281); Canada-Nunavut Geoscience Office, Open File Map 2023-01, scale 1:100 000.
<https://doi.org/10.4095/314543>

ABSTRACT

This new surficial geology map product represents the conversion of Open File 4281 (Ozyer, 2004) 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 Open File 4281 that conformed to the SDM were maintained during the conversion process. Additional material such as marginal notes which may exist on the original map, are not included here. Supplementary, limited legacy information was added to complement the converted geoscience data. This consists of glacial striations and roches moutonnées from McMartin et al. (2003). 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 which 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 du Dossier public 4281 (Ozyer, 2004) 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 du Dossier public 4281 qui sont en conformité avec le modèle de données ont été conservées pendant le processus de conversion. Des éléments additionnels tels que des notes marginales qui pourraient être présents sur la carte originale ne sont pas inclus ici. Une quantité limitée de données existantes a été ajoutée en complément aux données géoscientifiques converties. Il s'agit de données sur des stries glaciaires et des roches moutonnées tirées de McMartin et al. (2003). Ces données sont identifiées dans la géodatabase de la carte. 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.

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SHEET 1 OF 1, SURFICIAL GEOLOGY

GENERAL INFORMATION

Author: Geological Survey of Canada

Geology by C.A. Ozyer, 2001 and 2002

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

Geological data conversion by D.E. Kerr, 2016 and 2018

Geology has been spatially adjusted to fit the updated base.

Geomatics by J. Kingsley

Cartography by M.J. Baldock

Scientific editing by L. Ewert

Joint initiative of the Geological Survey of Canada and the Canada-Nunavut Geoscience Office, conducted under the auspices of the Information Management Project as part 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 1:50 000 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 2023, 10°38'W, decreasing 23.2' annually

Readings vary from 12°15'W in the NE corner to 9°00'W in the SW 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 (gscpublications-cgcpublishings@nrcan-nrcan.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/>) and Canada-Nunavut Geoscience Office (<https://cngo.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:

- Beach crest
- Minor meltwater channel
- Major moraine ridge
- Esker

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:

- PFlow

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., 2018. Surficial Data Model: the science language of the 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>
- McMartin, I., Utting, D.J., Little, E.C., Ozyer, C.A., and Ferbey, T., 2003. Complete results from the Committee Bay drift prospecting survey, central Nunavut (NTS 56-K, 56-J north, 56-O south and 56-P); Geological Survey of Canada, Open File 4493, 1 .zip file. <https://doi.org/10.4095/214646>
- Ozyer, C.A., 2004. Surficial geology, Arrowsmith River south, Nunavut; Geological Survey of Canada, Open File 4281, scale 1:100 000. <https://doi.org/10.4095/215112>

Sandeman, H.A., Brown, J.L., Greiner, E., Hyde, D., Johnstone, S., MacHattie, T.G., Studnicki-Gizbert, C., and Plaza, D., 2001a. Geology, Laughland Lake, Nunavut; Geological Survey of Canada, Open File 4190, scale 1:100 000. <https://doi.org/10.4095/212991>

Sandeman, H.A., Brown, J.L., Studnicki-Gizbert, C., MacHattie, T., Hyde, D., Johnstone, S., Greiner, E., and Plaza, D., 2001b. Bedrock mapping in the Committee Bay Belt, Laughland Lake area, central mainland, Nunavut; Geological Survey of Canada, Current Research 2001-C12, 12 p. <https://doi.org/10.4095/212090>

SUGGESTED READINGS

Ozyer, C.A. and Hicock, S.R., 2002. Glacial landforms and preliminary chronology of ice-movement in the Arrowsmith River map area, Nunavut; Geological Survey of Canada, Current Research 2002-C10, 10 p. <https://doi.org/10.4095/213185>

AUTHOR CONTACT

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

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COORDINATE SYSTEM

Projection: Universal Transverse Mercator
Units: metres
Zone: 15
Horizontal Datum: NAD83
Vertical Datum: mean sea level

BOUNDING COORDINATES

Western longitude: 92°00'00"W
Eastern longitude: 90°00'00"W
Northern latitude: 67°30'00"N
Southern latitude: 67°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., 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>