

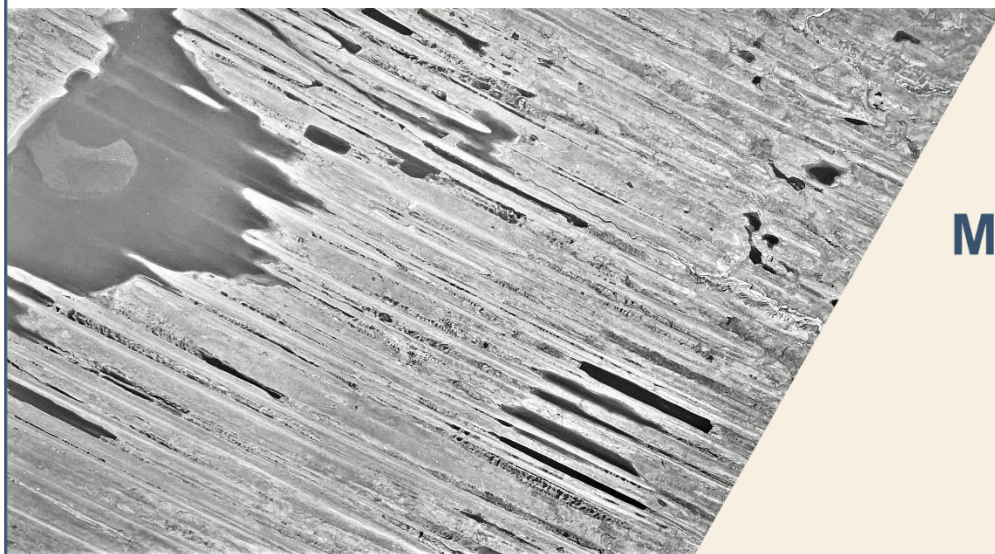


Natural Resources
Canada

Ressources naturelles
Canada

CANADIAN GEOSCIENCE MAP 454
RECONNAISSANCE SURFICIAL GEOLOGY
TAMMARVI RIVER

Nunavut–Northwest Territories
NTS 66-D



**Map Information
Document**

**Geological Survey of Canada
Canadian Geoscience Maps**

2023

Canada 



MAP NUMBER

Natural Resources Canada, Geological Survey of Canada
Canadian Geoscience Map 454

TITLE

Reconnaissance surficial geology, Tammarvi River, Nunavut–Northwest Territories,
NTS 66-D

SCALE

1:125 000

CATALOGUE INFORMATION

Catalogue No. M183-1/454-2023E-PDF
ISBN 978-0-660-48717-5
<https://doi.org/10.4095/330592>

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Kerr, D.E., 2023. Reconnaissance surficial geology, Tammarvi River, Nunavut–Northwest Territories, NTS 66-D; Geological Survey of Canada, Canadian Geoscience Map 454, scale 1:125 000. <https://doi.org/10.4095/330592>

ABSTRACT

Preliminary surficial geology studies, based on air photo interpretation and limited legacy field data in the Tammarvi River map area, provide an understanding of the nature of surficial materials and regional glacial history. The glaciated landscape records evidence of old southwestward ice flow, preserved in the extreme southwest, followed by younger dominant northwestward flow across the rest of the region, relating to the Dubawnt Lake Ice Stream. Northwest-trending streamlined till and associated fluted landforms record the last flow event, but subsequent ice stagnation resulted in the widespread deposition of hummocky till and rare major moraine ridges in the north, accompanied by formation of ridged till and subglacial meltwater activity. The end of deglaciation is defined by the formation and demise of glacial Lake Thelon, whose extent in the southern and east-central map regions can be inferred from the elevation of deltas (230 to 160 m) and beaches (230 to 130 m).

RÉSUMÉ

Des études préliminaires de la géologie des formations superficielles dans la région cartographique de Tammarvi River, fondées sur l'interprétation de photos aériennes et une quantité limitée d'anciennes données de terrain, permettent de comprendre la nature des matériaux superficiels et l'histoire glaciaire régionale. Le paysage glaciaire conserve les traces d'un ancien écoulement glaciaire de direction sud-ouest dans l'extrémité sud-ouest de la carte, lequel a été suivi de l'écoulement dominant vers le nord-ouest lié au courant glaciaire de Dubawnt Lake, qui s'est étendu au reste de la région. Du till profilé et des reliefs cannelés associés de direction nord-ouest témoignent du dernier événement d'écoulement, mais la stagnation subséquente de la glace a entraîné le dépôt répandu de till bosselé ainsi que de rares crêtes morainiques d'importance dans le nord et a été accompagnée de la formation de till à crêtes et d'une activité d'eau de fonte sous-glaciaire. La fin de la déglaciation est définie par la formation et la disparition du Lac glaciaire Thelon, dont l'étendue dans les régions sud et centre est de la carte peut être déduite de l'altitude de deltas (de 230 à 160 m) et de plages (de 230 à 130 m).

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SHEET 1 OF 1, RECONNAISSANCE SURFICIAL GEOLOGY

GENERAL INFORMATION

Authors: D.E. Kerr

Geology by D.E. Kerr based on air photo interpretation in 2020 and 2021 of 1:58 000 and 1:60 000 scale photos taken in August and September 1955 and July, 1956; striations from Wright (1967).

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 13
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 2023, 6°50'E, decreasing 0.1' annually. Readings vary from 7°59'E in the SW corner to 5°34'E in the NE corner of the map.

This map is not to be used for navigational purposes.

Title photograph: Northwest-trending streamlined glacial landforms, including mega-scale glacial lineations, Northwest Territories. Photo from the National Air Photo Library. NAPL photo A16835-25

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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.

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:

- Geological contact
- Station location

REFERENCES

Brouard, E., Campbell, J.E., McMartin, I., and Godbout, P.M., 2022. Compilation of surficial geology field data for the west-central Keewatin Sector of the Laurentide Ice Sheet (Northwest Territories and Nunavut); Geological Survey of Canada, Open File 8915, 1 .zip file. <https://doi.org/10.4095/330559>

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Wright, G.M., 1967. Surficial Geology, southeastern Barren Grounds, District of Keewatin and District of Mackenzie; Geological Survey of Canada, Map 1217A, scale 1:1 000 000. <https://doi.org/10.4095/108855>

SUGGESTED READINGS

Campbell, J.E., McMartin, I., McCurdy, M.W., Godbout, P.-M., Tremblay, T., and Normandeau, P.X., 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, 21 p. <https://doi.org/10.4095/328454>

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ADDITIONAL INFORMATION

The Additional Information folder of this product's digital download contains figures and tables that appear in the map surround as well as additional geological information not depicted on the map, nor this document, nor the geodatabase.
-PDF of each figure/table that appears in the CGM surround.

AUTHOR CONTACT

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

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Ottawa ON
K1A 0E8

gscpublications-cgcpublications@nrcan-rncan.gc.ca

COORDINATE SYSTEM

Projection: Universal Transverse Mercator

Units: metres

Zone: 13

Horizontal Datum: NAD83

Vertical Datum: mean sea level

BOUNDING COORDINATES

Western longitude: 104°00'00"W

Eastern longitude: 102°00'00"W

Northern latitude: 65°00'00"N

Southern latitude: 64°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>