



Natural Resources  
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Canada

**CANADIAN GEOSCIENCE MAP 439**  
**RECONNAISSANCE SURFICIAL GEOLOGY**  
**KELLER LAKE**

Northwest Territories  
NTS 95-P



**Map Information  
Document**

**Geological Survey of Canada  
Canadian Geoscience Maps**

**2022**

**Canada** 



## **MAP NUMBER**

Natural Resources Canada, Geological Survey of Canada  
Canadian Geoscience Map 439

## **TITLE**

Reconnaissance surficial geology, Keller Lake, Northwest Territories, NTS 95-P

## **SCALE**

1:125 000

## **CATALOGUE INFORMATION**

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## **ABSTRACT**

The Keller Lake map area contains three glacial terrains. First, ridged and fluted till cover the northeast region above 300 m elevation. Second, streamlined till, including mega-scale glacial lineations, and till plain with an extensive organic cover, dominate a low-lying basin in the north-central and central regions. Third, till blanket, ridged till, and undifferentiated till cover the highlands at 375 to 575 m elevation in the southeast, south, and west. A dominant regional northwestward ice flow first crossed the map area. Subsequently, an ice stream developed late during deglaciation, creating northwesterly oriented mega-scale glacial lineations in north-central regions. Late shifts in ice flow in the northeastern highlands also resulted in west-northwestward flutings superimposed on older northwestward-trending drumlinoids. Retreating remnant ice deposited minor moraines and other ridges over fluted till. In the extreme southeast, glacial Lake McConnell inundated lowlands to 275 m elevation, following retreat of southwesterly flowing ice. Meltwater corridors and glaciofluvial sediments are more prevalent in western regions and record variable flow directions.

## **RÉSUMÉ**

La région cartographique de Keller Lake est caractérisée par trois terrains glaciaires. Premièrement, une couverture de till à crêtes et à cannelures occupe la région du nord-est à une altitude de 300 m ou plus. Deuxièmement, du till profilé, comprenant entre autres des mégalinéations glaciaires, ainsi qu'une plaine de till dotée d'une importante couverture organique s'étendent en prédominance dans un bassin de faible altitude dans les régions du centre nord et du centre. Troisièmement, une nappe de till, des crêtes de till et du till non différencié recouvrent les hautes terres entre 375 et 575 m d'altitude au sud-est, au sud et à l'ouest. Un écoulement glaciaire régional dominant vers le nord-ouest a d'abord traversé la région cartographique. Par la suite, un courant glaciaire s'est formé tard lors de la déglaciation, créant des mégalinéations glaciaires dans les régions du centre nord. Des changements tardifs de la direction de l'écoulement glaciaire dans les hautes terres du nord-est ont aussi donné lieu à la formation de cannelures glaciaires de direction ouest-nord-ouest qui se superposent à des drumlinoïdes plus anciens de direction nord-ouest. De la glace résiduelle en retrait a entraîné le dépôt de moraines mineures et d'autres crêtes sur du till cannelé. À l'extrême sud-est, le Lac glaciaire McConnell a inondé les basses terres jusqu'à 275 m d'altitude à la suite du retrait des glaces s'écoulant vers le sud-ouest. Des corridors d'eau de fonte et des sédiments fluvioglaciaires sont plus fréquents dans les régions de l'ouest et rendent compte de directions d'écoulement variables.

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# ***SHEET 1 OF 1, RECONNAISSANCE SURFICIAL GEOLOGY***

## ***GENERAL INFORMATION***

Author: D.E. Kerr

Geology by D.E. Kerr and H.B. O'Neill, 2019, based on airphoto interpretation of 1:60 000 scale NAPL airphotos taken in 1974

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 A. Weatherston

Initiative of the Geological Survey of Canada, conducted under the auspices of the GEM-2 Mackenzie Surficial Project as part of Natural Resources Canada's Geo-mapping for Energy and Minerals (GEM) 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, 18°57'E, decreasing 12.6' annually  
Readings vary from 18°34'E in the SE corner to 19°17'E in the NW corner of the map.

This map is not to be used for navigational purposes.

Title photograph: Highly elongated drumlinoids, up to 10 km long, lac Taché, Northwest Territories. Photograph by the National Air Photo Library. NAPL photo A23813-176

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.

### ***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

### ***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>

### ***AUTHOR CONTACT***

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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: 64°00'00"N  
Southern latitude: 63°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>