Natural Resources Canada | Ressources naturelles Canada

2nd EDITION

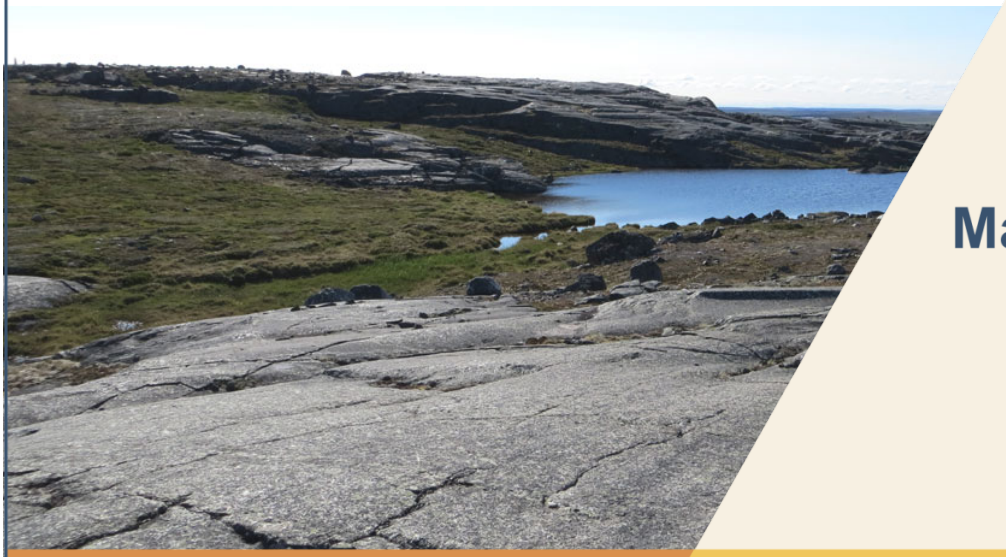
CANADIAN GEOSCIENCE MAP 208

RECONNAISSANCE SURFICIAL GEOLOGY

DEEP ROSE LAKE

Nunavut

NTS 66-G north



Map Information Document

Preliminary

Celebrating 175 yrs

Geological Survey of Canada
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MAP NUMBER

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TITLE

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SCALE

1:125 000

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ABSTRACT

Preliminary surficial geology studies, based on air photo interpretation and limited legacy and recent field data, were undertaken in the north half of the Deep Rose Lake

map area to provide an understanding of the distribution and nature of surficial materials, and regional glacial history.

RÉSUMÉ

Des études préliminaires de la géologie de surface basées sur l'analyse de photos aériennes et un ensemble limité de données patrimoniales et récentes collectées sur le terrain ont été réalisées dans la moitié nord de la région de la carte du lac Deep Rose pour comprendre la distribution et la nature des sédiments de surface et l'histoire glaciaire de la région.

LICENCE AGREEMENT

ACCORD DE LICENCE

SHEET 1 OF 1, RECONNAISSANCE SURFICIAL GEOLOGY

GENERAL INFORMATION

Authors: D.A. St-Onge and D.E. Kerr

Geology based on aerial photograph interpretation by D.A. St-Onge, 2014, with revisions and compilation by D.E. Kerr, 2014.

Geology conforms to Surficial Data Model v. 2.0.1

Geomatics and cartography by L. Landon-Roy

Initiative of the Geological Survey of Canada, conducted under the auspices of Natural Resources Canada's Geo-mapping for Energy and Minerals (GEM) program

Map projection Universal Transverse Mercator, zone 14.
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

Magnetic declination 2017, 0°21'E, decreasing 5.9' annually. Readings vary from 1°58'E in the SW corner to 1°20'W in the NE corner of the map.

This map is not to be used for navigational purposes.

Title photograph: Glacially polished and fluted bedrock with till veneer in depressions. Photograph by P.X. Normandeau. 2014-215

The Geological Survey of Canada welcomes corrections or additional information from users.

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 (http://geoscan.nrcan.gc.ca/).

Preliminary publications in this series have not been scientifically edited.

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.

Descriptive Notes

The area is characterized by widespread streamlined till landforms indicating ice flow towards the northwest to north-northwest, but locally in the eastern half, an older northward flow is preserved and crosscut by the younger northwestward flow. Small areas of hummocky till occur in the map area and are associated with moraine ridges developed both parallel to and perpendicular to ice flow. Widespread deposits of ridged till in the central and western regions consist of minor moraine ridges and ribbed moraine, oriented predominantly perpendicular to ice flow. A few of these moraine ridges are drumlinized. Some northwest trending glaciofluvial outwash plain and terraced deposits are closely associated with eskers and other ice-contact sediments. First described by J.G Fyles (1954, Operation Baker, unpublished notes), northward trending narrow, subglacial meltwater corridors consisting of both narrow-ridged and flat-topped eskers, kames, washed till, boulder lags and scoured bedrock, cross the study area. There is evidence of short-lived, isolated ice-dammed glacial lakes of very limited extent with ice-contact deltas and rare beaches, formed at 190, 170 and 160 m elevation in the western regions. The largest glacial lake formed in the Back River valley (Lower Gary Lake) but there is an absence of significant glaciolacustrine sediments and raised beaches, other than a few metres above current lake level, suggesting much of the terrain remained covered by stagnant ice. Glaciomarine deltas, beaches and associated sediments in the north extend southward up to 150–160 m elevation in the eastern half of the map area, where these sediments overlie some till at lower elevations. Active sand dunes and blowouts are found where modern river channels cut into glaciofluvial sediments, as well as along some lake shorelines where glaciofluvial sediments are exposed.

References

NOTE: Additional field ice flow measurements and station/sample data available from:

McMartin, I., Berman, R.G., Normandeau, P.X., and Percival, J.A., 2013. Till composition of a transect across the Thelon tectonic zone, Queen Maud block, and adjacent Rae craton: results from the Geo-Mapping Frontiers' Chantrey project; Geological Survey of Canada, Open File 7418. doi:10.4095/292801

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. doi:10.4095/108855

Author Contact

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Coordinate System

Projection: Universal Transverse Mercator
Units: metres
Zone: 14
Horizontal Datum: NAD83
Vertical Datum: mean sea level

Bounding Coordinates

Western longitude: 100°00’00”W
Eastern longitude: 98°00’00”W
Northern latitude: 66°00’00”N
Southern latitude: 65°30’00”N

Software Version

Data has been originally compiled and formatted for use with ArcGIS™ desktop version 10.2.2 developed by ESRI®.

Data Model Information

Surficial

The Geological Survey of Canada (GSC) through the Geomapping 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., Plouffe, A., Eagles, S., Everett, D., Huntley, D.H., Inglis, E., Kerr, D.E., Moore, A., Parent, M., Robertson, L., Smith, I.R., St-Onge, D.A., and Weatherston, A., 2014. Science language for an integrated Geological Survey of Canada data model for surficial geology maps, version 2.0; Geological Survey of Canada, Open File 7631, 464 p. doi:10.4095/294225