



Natural Resources
Canada

Ressources naturelles
Canada

2nd
EDITION

CANADIAN GEOSCIENCE MAP 200

PREDICTIVE SURFICIAL GEOLOGY

YELLOWKNIFE AND HEARNE LAKE

Northwest Territories
NTS 85-J and 85-I

Map Information
Document

Preliminary



Geological Survey of Canada
Canadian Geoscience Maps

2017

Canada



MAP NUMBER

Natural Resources Canada, Geological Survey of Canada
Canadian Geoscience Map 200 (Preliminary, 2nd Edition)

TITLE

Predictive surficial geology, Yellowknife and Hearne Lake, Northwest Territories, NTS 85-J and 85-I

SCALE

1:125 000

CATALOGUE INFORMATION

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ABSTRACT

This new predictive surficial geology map product represents the conversion of Open Files 7108 and 7233 and their legends, using the Geological Survey of Canada's Surficial Data Model (SDM version 2.0) which can be found in Open File 7631. All geoscience knowledge and information from the predictive surficial geology maps derived from LANDSAT in Open Files 7108 and 7233 that conformed to the current SDM were maintained during the conversion process. 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 geologic map information in a structured and consistent manner. This provides an effective knowledge management tool designed around a geo-database which can expand following the type of information to appear on new surficial geology maps.

RÉSUMÉ

Ce nouveau produit dérivé des cartes prédictives de la géologie de surface des dossiers publics 7108 et 7233 a été produit avec le Modèle de données des formations superficielles (MDFS version 2.0) de la Commission géologique du Canada qui a été publié sous forme de dossier public 7631. La connaissance et toutes les données des cartes prédictives provenant de LANDSAT des dossiers publics 7108 et 7233 se retrouvant dans le MDFS ont été maintenues pendant le processus de conversion. Le but de convertir les cartes publiées antérieurement en langage scientifique commun et en légende commune est de permettre et faciliter la compilation, l'interprétation, la gestion et la diffusion numériques efficaces d'information de cartes géologiques de façon structurée et cohérente. Cette base de données géospatiales est un outil de gestion qui pourra évoluer suivant le type d'information à paraître sur les nouvelles cartes des formations superficielles.

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SHEET 1 OF 1, PREDICTIVE SURFICIAL GEOLOGY

GENERAL INFORMATION

Authors: C.W. Stevens, D.E. Kerr, S.A. Wolfe, and S. Eagles

Geology by C.W. Stevens and D.E. Kerr, 2011, 2012

Geology conforms to Surficial Data Model v. 2.0

Data conversion by D.E. Kerr and M. Ednie, 2014

Geomatics and cartography by L. Landon-Roy and M. Smith

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 11.
North American Datum 1983

Base map at the scale of 1:50 000 from Natural Resources Canada, with modifications. Elevations above mean sea level are expressed in metres (NTS 85-I/1–5, 85-I/9–10) and feet (NTS 85-J/10)

Magnetic declination 2017, 16°30'E, decreasing 19.8' annually. Readings vary from 15°09'E in the SE corner to 17°41'E in the NW 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.

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.

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:

- striations
- fluted bedrock (point symbol)

METHODOLOGY

This predictive surficial geology map is derived from integrating digital datasets of satellite imagery and interpreted air photos. The limit of airphoto interpretation defines training areas where surficial geology map units and landforms have been identified, and used in the generation of the predictive map. Some additional geological features in

these areas include small bedrock outcrops, kames, thermokarst depressions, patterned ground, beach ridges, and escarpments. These features may also exist beyond the boundaries of the airphoto interpreted areas. Lakes may include hydrographic layers and mask areas. In Edition 2 of CGM 200, the “undifferentiated” map unit of Edition 1 was removed and adjacent surficial units were extended to fill these areas.

REFERENCES

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:10.4095/296225

Stevens, C.W., Kerr, D.E., Wolfe, S.A., and Eagles, S., 2012. Predictive Surficial Materials and Geology Derived from LANDSAT 7, Yellowknife, NTS 85J, Northwest Territories; Geological Survey of Canada, Open File 7108. doi:10.4095/291731

Stevens, C.W., Kerr, D.E., Wolfe, S.A., and Eagles, S., 2013. Predictive Surficial Materials and Surficial Geology Derived from LANDSAT 7, Hearne Lake, NTS 85-I, Northwest Territories; Geological Survey of Canada, Open File 7233. doi:10.4095/292394

AUTHOR CONTACT

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COORDINATE SYSTEM

Projection: Universal Transverse Mercator
Units: metres
Zone: 11
Horizontal Datum: NAD83
Vertical Datum: mean sea level

BOUNDING COORDINATES

Western longitude: 116°00'00"W
Eastern longitude: 112°00'00"W
Northern latitude: 63°00'00"N
Southern latitude: 62°00'00"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