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CANADIAN GEOSCIENCE MAP 26

GEOLOGY

TECTONIC ASSEMBLAGE MAP OF THE NANSEN SOUND AREA

northern Axel Heiberg and western Ellesmere islands, Nunavut

Map Information Document

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ABSTRACT

This map and the related geodatabase illustrate the bedrock geology of northern Axel Heiberg Island, northern Meighen Island, and part of northern Ellesmere Island. Major features of the area include: ~Neoproterozoic to Silurian Pearya Terrane; lower Paleozoic volcanic and deep water facies of the Clements Markham and Hazen fold belts; Princess Margaret Arch; diverse upper Paleozoic and Mesozoic rocks of the Sverdrup Basin; and Paleogene strata related to the Eurekan Orogeny. Neogene sediments of Meighen Island are part of an extensive post-orogenic cover preserved throughout the western Arctic Islands.

RÉSUMÉ

Cette carte et la géodatabase qui s'y rapporte documentent la géologie du substratum rocheux dans le nord de l'île Axel Heiberg, le nord de l'île Meighen et une partie du nord de l'île d'Ellesmere. Les principales entités géologiques de la région comprennent le terrane de Pearya (env. Néoprotérozoïque au Silurien), les faciès volcaniques et d'eau profonde des zones de plissement de Clements Markham et de Hazen (Paléozoïque inférieur), l'arche de Princess Margaret, diverses roches du Paléozoïque supérieur et du Mésozoïque du bassin de Sverdrup, et des strates paléogènes reliées à l'orogenèse eurékienne. Les sédiments néogènes de l'île Meighen font partie d'une vaste couverture postorogénique conservée dans l'ensemble de l'ouest de l'archipel Arctique.

ABOUT THE MAP

General Information

Authors: J.C. Harrison, T. Lynds, A. Ford, H.P. Trettin, R. Thorsteinsson, and U. Mayr

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Source map geology (senior authors) by H.P. Trettin, R. Thorsteinsson, and U. Mayr

GIS development by T. Lynds

Spatial data capture by Gismo Solutions Ltd. (Edmonton)

Cartography by M.J. Baldock and J. Gardner

Critical review by K. Dewing

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

Map projection Lambert Conformal Conic, standard parallels 80°30'N and 82°30'N.
North American Datum 1983

Base map at the scale of 1:250 000 from Natural Resources Canada, with modifications.

Proximity to the North Magnetic Pole causes the magnetic compass to be erratic in this area.
Mean magnetic declination 2015, 61°09'W decreasing 105.5' annually. Readings vary from 39°10'W in the SW corner to 63°59'W in the NE corner of the map.

This map is not to be used for navigational purposes.

Title photograph: Sub-Carboniferous angular unconformity above Lower Cambrian, Hare Fiord, northern Ellesmere Island. Photograph by J.C. Harrison. 2013-062

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

Data may include additional observations not portrayed on this map.
See documentation accompanying the data.

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:

Fault: approximate, showing downthrown side
Fault: assumed, showing downthrown side
Fault: dextral strike-slip, approximate
Thrust fault: approximate, teeth indicate upthrust side
Thrust fault: assumed, teeth indicate upthrust side
Thrust fault: inferred, teeth indicate upthrust side
Diabase dyke
Diabase dyke (solid circle indicates downthrown side of fault intruded by dyke)

ABOUT THE GEOLOGY

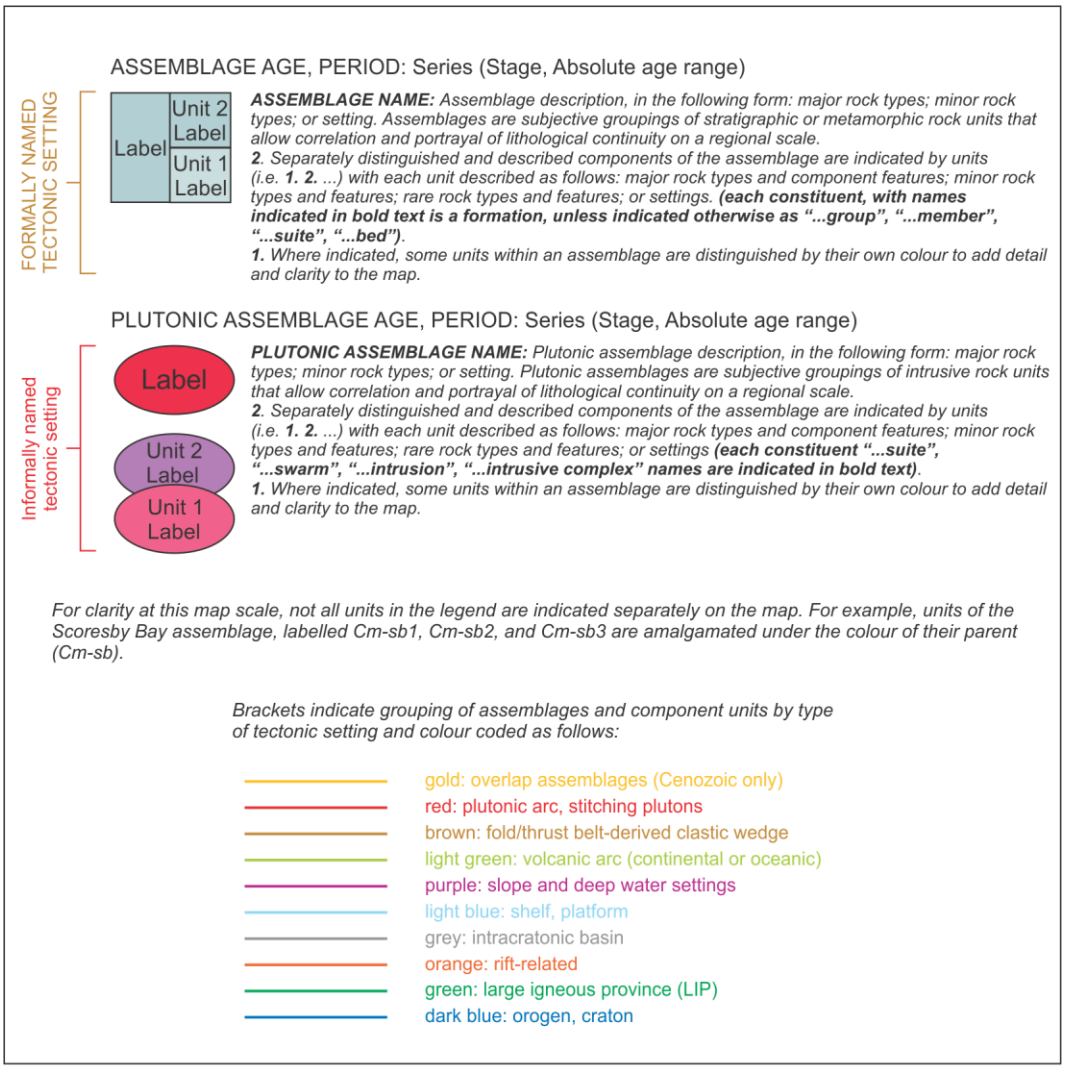

Figure 1. Explanation of map unit features.

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Coordinate System

Projection: Lambert Conformal Conic
False Easting: 0.0°
False Northing: 0.0°
Central Meridian: -91.0°
Standard Parallel 1: 80.5°
Standard Parallel 2: 82.5°
Latitude Of Origin: 40.0°
Units: metres
Horizontal Datum: NAD83
Vertical Datum: mean sea level

Bounding Coordinates

Western longitude: 102°00’00”W
Eastern longitude: 80°00’00”W
Northern latitude: 83°00’00”N
Southern latitude: 80°00’00”N

Data Model Information

This Canadian Geoscience Map does not conform to the Bedrock Mapping Geodatabase Data Model v.3.1. Therefore, some of the feature classes and feature attributes require explanation. Consult “Explanation_of_attributes.rtf” in Data folder for complete description of the feature classes and feature attributes.

LICENCE AGREEMENT

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