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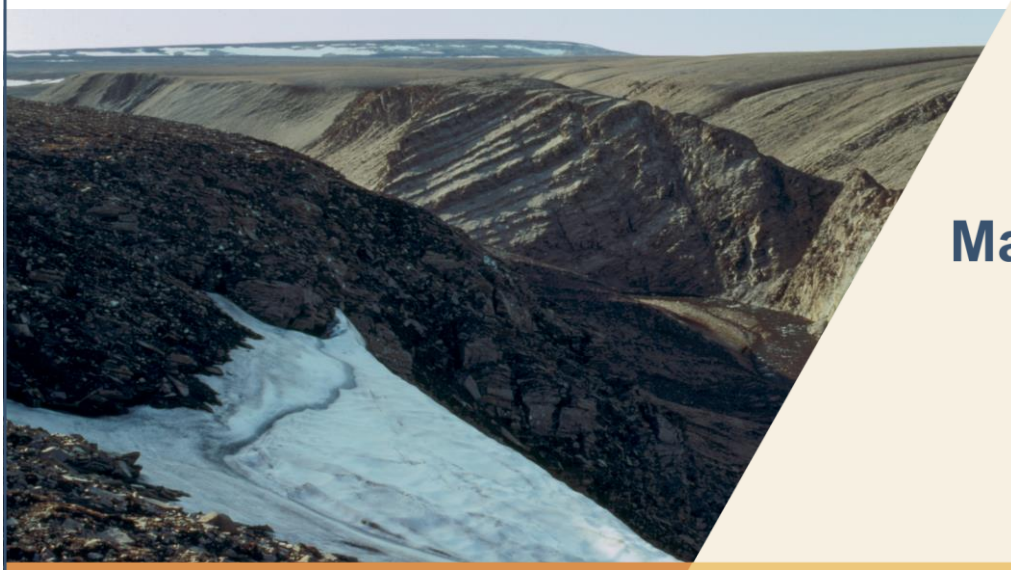
2nd EDITION

CANADIAN GEOSCIENCE MAP 33

GEOLOGY

TECTONIC ASSEMBLAGE MAP OF WELLINGTON CHANNEL

Cornwallis and western Devon islands, Nunavut



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ABSTRACT

This map and the related geodatabase illustrate the bedrock geology of eastern Bathurst Island, Cornwallis and Little Cornwallis islands, and western Devon Island including Grinnell Peninsula and adjacent small islands. The dominant feature of the area is the northerly trending Boothia Uplift, the mobilized Ordovician to Devonian strata of the Cornwallis fold belt, and its intersection with the westerly trending Parry Islands fold belt. Uplift history is recorded by clastic wedges and related facies changes in upper Silurian and Lower Devonian strata. Unconformities occur beneath Lower

Devonian, Carboniferous, and Cretaceous strata. Scattered Eocene igneous rocks of basanite-nephelinite-phonolite association are locally common.

RÉSUMÉ

Cette carte et la géodatabase qui s'y rapporte documentent la géologie du substratum rocheux dans l'est de l'île Bathurst, l'île Cornwallis et la Petite île Cornwallis, et l'ouest de l'île Devon, y compris la presqu'île Grinnell et de petites îles adjacentes. L'entité géologique dominante de la région est le soulèvement de Boothia, de direction nord (les strates mobilisées ordoviciennes à dévoniennes de la zone de plissement de Cornwallis), et son intersection avec la zone de plissement de Parry Islands, de direction ouest. Les prismes de roches clastiques et les changements de faciès associés, dans les strates du Silurien supérieur et du Dévonien inférieur, témoignent de l'histoire du soulèvement. Des discordances sont présentes sous les strates du Dévonien inférieur, du Carbonifère et du Crétacé. Des roches ignées de l'Éocène (association basanite-néphélinite-phonolite) sont dispersées dans la région mais peuvent être concentrées à l'échelle locale.

ABOUT THE MAP

General Information

Authors: J.C. Harrison, R. Thorsteinsson, U. Mayr, T. Lynds, A. Ford, and E.C. Turner

Geological compilation by J.C. Harrison

Source map geology (senior authors) by R. Thorsteinsson, U. Mayr, J.C. Harrison, and E.C. Turner

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Spatial data capture by Gismo Solutions Ltd. (Edmonton) and A. Ford

Cartography by M.J. Baldock

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 74°30'N and 76°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, 29°16'W, decreasing 47' annually.
Readings vary from 10°54'W in the SW corner to 43°22'W in the NE corner of the map.

This map is not to be used for navigational purposes.

Title photograph: Devonian turbidites, Central Bathurst Island, Nunavut.
Photograph by J.C. Harrison. 2013-069

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: inferred, showing downthrown side
Thrust fault: approximate, teeth indicate upthrust side
Thrust fault: assumed, teeth indicate upthrust side

ABOUT THE GEOLOGY

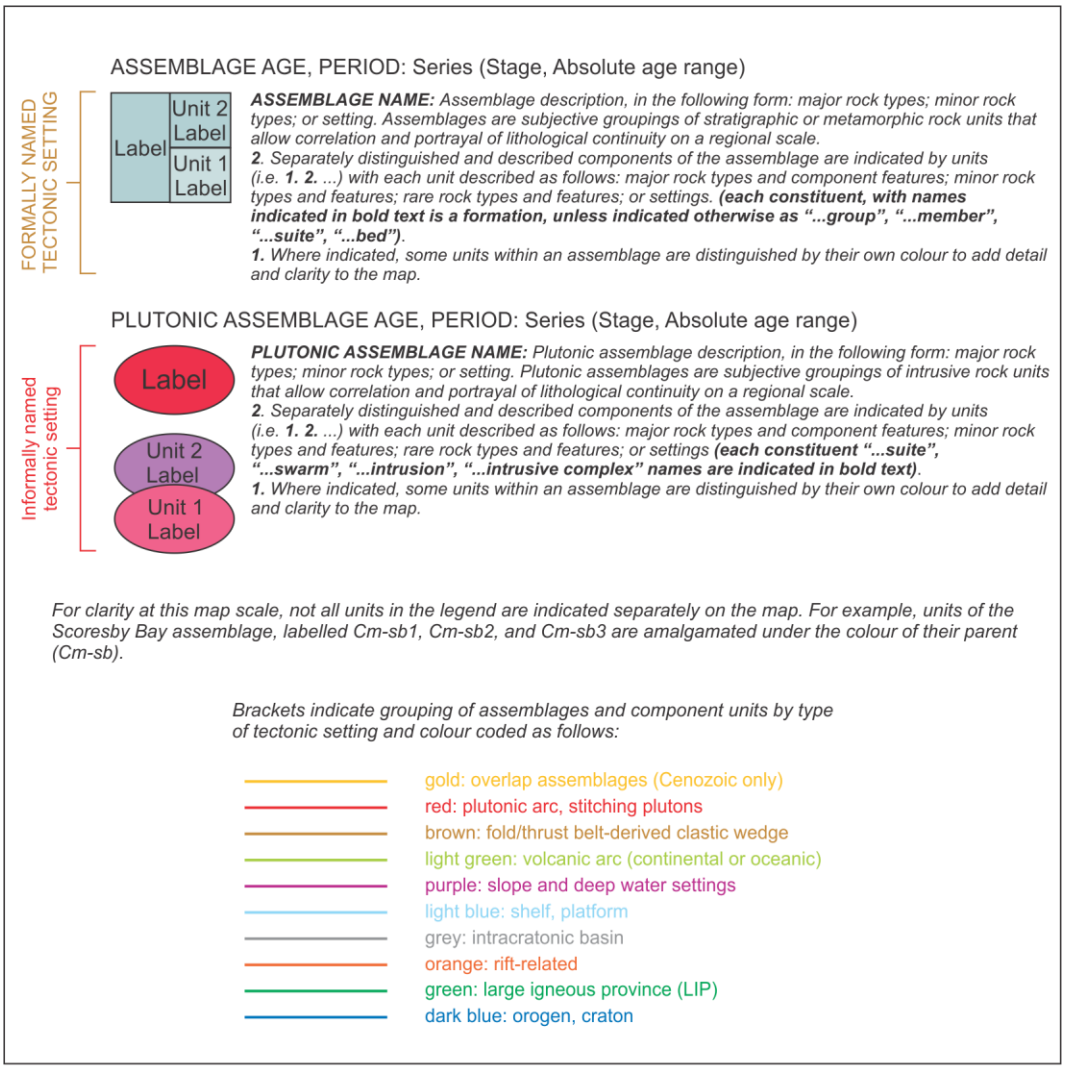

Figure 1. Explanation of map unit features.

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Coordinate System

Projection: Lambert Conformal Conic
False Easting: 0.0°
False Northing: 0.0°
Central Meridian: -94.0
Standard Parallel 1: 74.5
Standard Parallel 2: 76.5
Latitude of Origin: 40.0°
Units: metres
Horizontal Datum: NAD83
Vertical Datum: mean sea level

Bounding Coordinates

Western longitude: 100°00’00”W
Eastern longitude: 88°00’00”W
Northern latitude: 77°00’00”N
Southern latitude: 74°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

ACCORD DE LICENCE