



Natural Resources  
Canada

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2nd  
EDITION

## CANADIAN GEOSCIENCE MAP 31

GEOLOGY

# TECTONIC ASSEMBLAGE MAP OF M'CLURE STRAIT

Prince Patrick, Eglinton, and surrounding islands,  
Northwest Territories



Map Information  
Document

**Preliminary**

Geological Survey of Canada  
Canadian Geoscience Maps

2015

Canada 

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## **ABSTRACT**

This map and the related geodatabase illustrate the bedrock geology of central and southern Prince Patrick Island, Eglinton Island, northernmost Banks Island, and western Melville Island. Major features of the area include the western facies of the Middle and Upper Devonian clastic wedge associated with the Ellesmerian Orogeny, and unconformable Permo-Carboniferous strata which accumulated during rifting and subsequent inversion tectonics. The Mesozoic record includes the Middle and Upper Jurassic evolution of (a second phase of) rift tectonic events aligned with Eglinton Basin

and the ancestral margin of the Arctic Ocean. Post-tectonic Neogene is widespread in the western part of the map area.

## **RÉSUMÉ**

Cette carte et la géodatabase qui s'y rapporte documentent la géologie du substratum rocheux dans le centre et le sud de l'île Prince Patrick, l'île Eglinton, la partie la plus septentrionale de l'île Banks et l'ouest de l'île Melville. Les principales entités géologiques de la région comprennent le faciès occidental du prisme de roches clastiques du Dévonien moyen et supérieur associé à l'orogène ellesmérien, et les strates permo-carbonifères discordantes qui se sont accumulées pendant le rifting et l'inversion tectonique subséquente. La stratigraphie du Mésozoïque témoigne d'une deuxième phase de rifting (Jurassique moyen et supérieur), selon la même orientation que le bassin d'Eglinton et la protomarge de l'océan Arctique. Les sédiments néogènes post-tectoniques sont répandus dans la partie ouest de la région cartographiée.

## **ABOUT THE MAP**

### **General Information**

Authors: J.C. Harrison, T. Lynds, A. Ford, and A.D. Miall

Geological compilation by J.C. Harrison

Source map geology (senior authors) by J.C. Harrison and A.D. Miall

GIS development by T. Lynds

Spatial data capture by Geotech Ltd.

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, 19°52'E, decreasing 69.4' annually.

Readings vary from 24°01'E in the SW corner to 7°20'E in the NE corner of the map.

This map is not to be used for navigational purposes.

Title photograph: Hoodoos in Callovian sandstone, Northwest Melville Island, Northwest Territories. Photograph by J.C. Harrison. 2013-067

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**

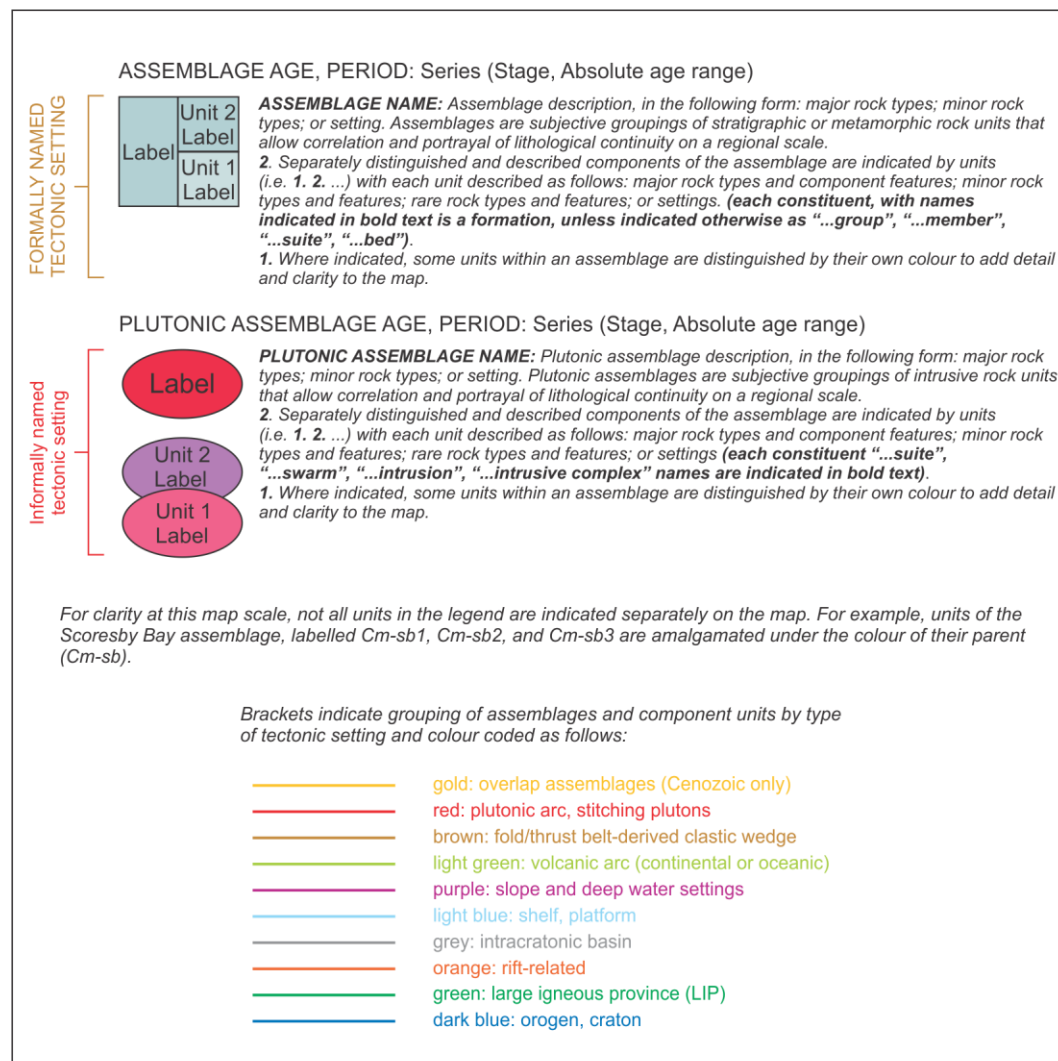
The published map is distributed as a Portable Document File (PDF), and may contain a subset of the overall geological data for legibility reasons at the publication scale.

### **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  
Dextral strike-slip fault: approximate  
Sinistral strike-slip fault: approximate  
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: -119.0  
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: 126°00'00"W  
Eastern longitude: 112°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.

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