

ASSEMBLAGE AGE PERIOD: Series (Stage, Absolute age range)

ASSEMBLAGE NAME: assemblage description, in the following form: major rock type (rock name), sub-type (rock name), group (assemblage name, in bold). Assemblage names are subjective groupings of stratigraphic or metamorphic rock units that allow correlation and display of geologic continuity on a regional scale.

1. Separately distinguishable and described components of the assemblage are indicated by units 1, 2, 3, 4, 5, 6, and 7, in the following form: major rock type (rock name), sub-type (rock name), group (assemblage name), member (member name), zone (zone name), formation (formation name), member (member name), zone (zone name), and 7. When indicated, some units within an assemblage are distinguished by their own colour to add detail and clarity to the map.

PLUTONIC ASSEMBLAGE AGE PERIOD: Series (Stage, Absolute age range)

PLUTONIC ASSEMBLAGE NAME: plutonic assemblage description, in the following form: major rock type (rock name), sub-type (rock name), group (assemblage name, in bold). Plutonic assemblage names are subjective groupings of igneous rock units that allow correlation and display of geologic continuity on a regional scale.

1. Separately distinguishable and described components of the assemblage are indicated by units 1, 2, 3, 4, 5, 6, and 7, in the following form: major rock type (rock name), sub-type (rock name), group (assemblage name), member (member name), zone (zone name), formation (formation name), member (member name), zone (zone name), and 7. When indicated, some units within an assemblage are distinguished by their own colour to add detail and clarity to the map.

For clarity at this map scale, not all units in the legend are indicated separately on the map. For example, units of the Stellanian Bay assemblage, labelled Cm-01, Cm-02 and Cm-03 are amalgamated under the colour of their parent (Cm).

Dashed lines indicate grouping of assemblages and component units by type of feature, setting and/or colour coded as follows:

- gold: overlap assemblages (Stellanian only)
- red: plutonic arc, volcanic plateau
- green: batholith, batholith-dike-wedge
- light green: volcanic arc (continental or oceanic)
- purple: slope and deep water settings
- pink: igneous intrusions
- orange: rift-related
- green: large igneous province (LIP)
- dark blue: igneous ocean

Figure 1. Explanation of map-unit features.

National Topographic System reference and index to adjoining published Geological Survey of Canada maps

Abstract

This map and the related geodatabase illustrate the tectonic geology of southwestern Victoria Island. Major features of the area include Mesozoic and Neoproterozoic strata of Amundsen Basin, allochthonous ophiolite, Franklin Large Igneous Province (ca. 725 Ma), and generally east-trending Cambrian to Silurian strata of Arctic Platform.

Résumé

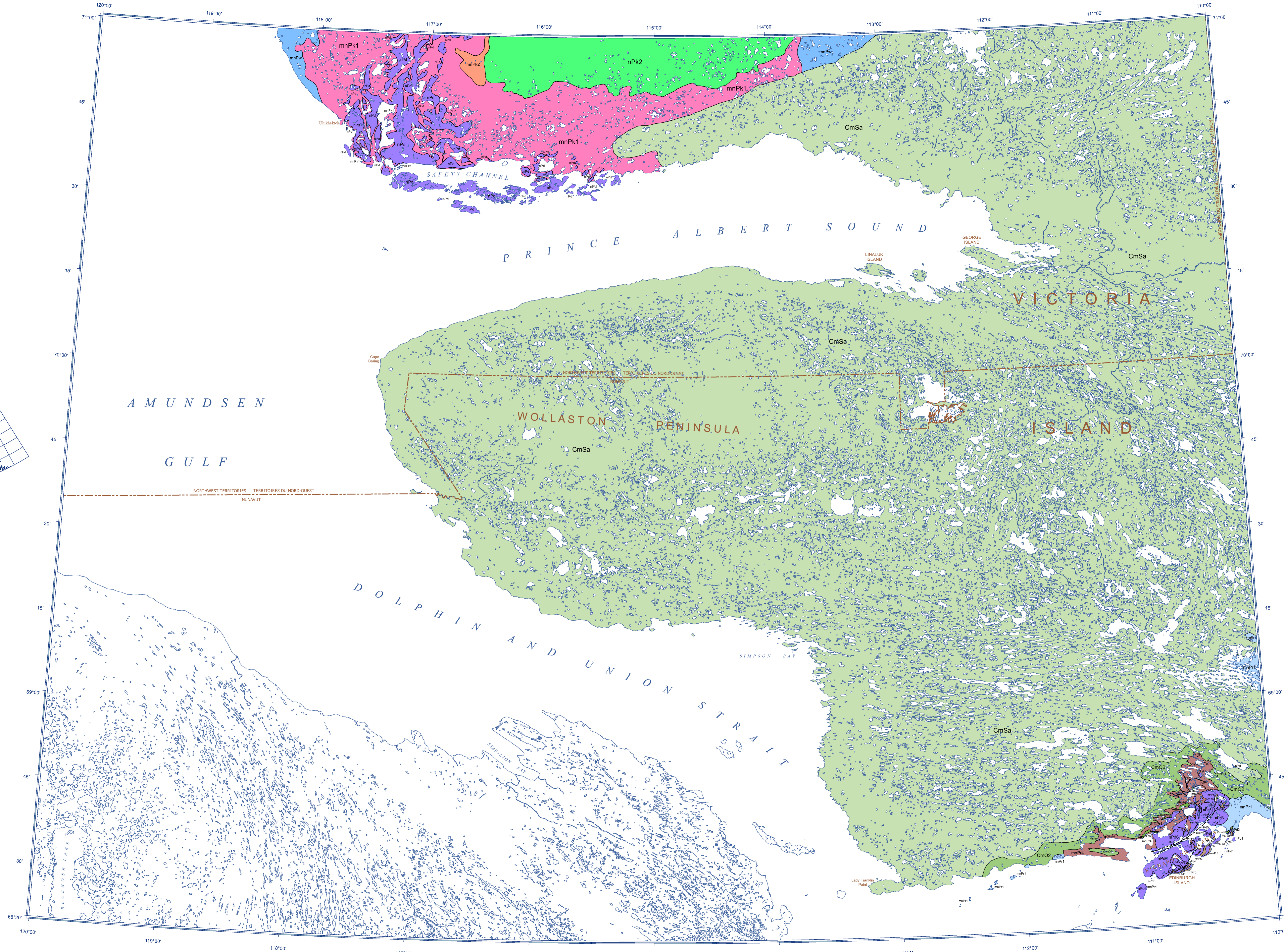
Cette carte et la géodatabase qui s'y rapporte documentent la géologie du substratum tectonique dans le sud-ouest de l'île Victoria. Les principales entités géologiques de la région comprennent des strates mésozoïques et néoproterozoïques du bassin d'Amundsen, des ophiolites allochtones, le plateau igné Franklin (ca. 725 Ma) et des strates généralement orientées à l'est du Cambrien à l'époque de la Plate-forme d'Arctique.

Cover illustration
 Palaeozoic strata, Prince Albert Sound area, southwestern Victoria Island, Nunavut. Photograph by Rob Rainbird, 2013/07/14

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CANADIAN GEOSCIENCE MAP 77
GEOLOGY
TECTONIC ASSEMBLAGE MAP OF THE ULUKHAKTOK AREA
 southwestern Victoria Island,
 Nunavut—Northwest Territories
 1:500 000



CAMBRIAN TO SILURIAN

LATE CAMBRIAN TO LUDLOW

CmSa ARCTIC PLATFORM: dolostone, dolomitic limestone, limestone; minor sandstone, shale, micritic conglomerate, breccia; nephrite and mineralized supracrustal, mostly restricted (Turner Cliffs, Ship Point, Irene Bay, Thumb Mountain, Allen Bay, Cape Storm)

CAMBRIAN AND ORDOVICIAN

LATE CAMBRIAN (Fruonglam) to EARLY ORDOVICIAN (Tremadoc)

CmO2 TURNER CLIFFS: dolostone, limestone, intraclast conglomerate; minor shale, sandstone, gypsiferous local breccias; pyritic grading to subtidal shelf

1. Dolostone, grey, buff to laminated. Breccia in medium-bedded, stromatolitic sandstone; grey, white, red brown, carbonaceous micritic dolomite, conglomerate, nephrite to restricted shallow margin (Turner Cliffs, lower member)

CAMBRIAN

EARLY AND MIDDLE CAMBRIAN (Series 2, 3)

Cm-02 RABBIT POINT: limestone, dolostone, sandstone; fluvial and nearshore grading to shallow subtidal

1. Sandstone, thick-bedded, planar and trough cross-stratified, medium- to coarse-grained, grey, yellow, red weathering; sandstone, very fine- to fine-grained, thin-bedded, ripple, desiccation cracks, trace fossil, fluvial and nearshore settings (Old Fort Island)

NEOPROTEROZOIC

CROZGENIAN (723 to 718 Ma)

nP1 FRANKLIN plutonic assemblage: Diabase, mostly high titanium tholeiite, olivine-bearing, brown to black, subophitic; gabbroes often saucerized, olivine replaced by carbonate, local ultramafic rock, LIP intrusives, olivine tholeiite association (Franklin and Thule swarms)

1. Gabbro, coarse-grained; minor pegmatite; scattered small sills and other intrusive bodies lying along six regionally mapped sills in the Duke of York Inter-arc area.

2. Gabbro, brown weathering, medium- to coarse-grained, ophitic texture, columnar jointed, minor gneissophyre and pegmatite; highest of six mapped sills in the Duke of York Inter-arc area.

3. Olivine gabbro, poikilitic, dark green, fine- to coarse-grained; pegmatitic gabbro; local pyritic gossian; fifth from the base of six sills in the Duke of York Inter-arc area.

4. Olivine gabbro, medium- to coarse-grained, in part poikilitic, clinopyroxene ophiolite, amphibole-bearing, south from the base of six sills in the Duke of York Inter-arc area, 20 to 30 m thick.

5. Gabbro, basal from the base of six sills in the Duke of York Inter-arc area, southern Victoria Island, 25 m thick, prominently exposed upper chill margin.

6. Gabbro, second from the base of six sills in the Duke of York Inter-arc area.

7. Gabbro, lowest of six sills in the Duke of York Inter-arc area, southern Victoria Island.

nPk1 NATUKSIAK: basalt, minor volcanoclastic rock, agglomerate, subaerial continental flow, phreatomagmatic and volcanoclastic units

1. Basalt flow, massive and amygdaloidal, to 50 m thick, minor volcanoclastic units. Common native copper and copper sulphides; subaerial continental flow and phreatomagmatic units (Natusiak)

MESOPROTEROZOIC AND NEOPROTEROZOIC

STELLANIAN TO CROZGENIAN (1033 to 723 Ma)

mP2 KILIAN: Limestone, dolostone, gypsiferous/thyridite; lesser quartz arenite, mudstone, minor mudstone, arenaceous and argillaceous carbonates; cyclical to subtidal to supratidal (Kilian)

mP1 2. Coarse-grained quartz arenite, tabular cross-bedded; minor calcarenaceous siltstone, fine sandstone, fluvial braidplain with abandoned channel playas (Kiliani)

1. Cyclical interbedded gypsiferous/thyridite and red to tan limestone and dolomite, argillaceous and arenaceous carbonates; shallow subtidal, often stromatolitic, cyclically shallow subtidal to intertidal and supratidal (Kilian)

mPw WYNNIAT: Cyclic dolostone, dolomite, intraclast breccia, sandstone, black mudstone, minor quartz arenite, micritic limestone, common desiccation cracks, stromatolitic dolomite, shallow subtidal with reef complex and vertical intertidal faces (Wynniate)

mP5 RAE: dolostone, dolomite, quartz arenite, minor siliceous arenite, intraclast conglomerate; classic shelf, offshore platform and fluvial-deltaic

5. Dolostone, sideritic to ankeritic, cream to orange brown, columnar and digitate stromatolite, minor dolomite and wavy dolomite, marine platform below wave base (Aak)

6. Siliceous, red, green, quartz arenite, fine- to medium-grained, white to pink, planar cross-stratified, minor shale, pyritic, black glauconitic sandstone, hummocky cross-stratified, marine prodeltaic, deltaic, fluvial (Nelson Head)

mP4 3. Dolostone, stromatolitic; dolomite, dolarenite, dolarenite intraclast conglomerate, minor chert; shallow subtidal to supratidal (Mikilaitan Islands)

mP3 1. Dolostone, dolostone, quartz arenite, minor siliceous arenite, intraclast conglomerate; classic shelf, offshore platform and fluvial-deltaic (Rae group)

mP1

Geological boundary: defined or approximate

Contacts

Faults

Assumed

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Canadian Geoscience Maps

CANADIAN GEOSCIENCE MAP 77
GEOLOGY
TECTONIC ASSEMBLAGE MAP OF THE ULUKHAKTOK AREA
 southwestern Victoria Island, Nunavut—Northwest Territories
 1:500 000

Authors: R.H. Rainbird, R.L. Christie, J.C. Harrison, and A. Ford
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Spatial data capture by A. Ford
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The Geological Survey of Canada welcomes corrections or additional information from users.
 The data may include additional observations not captured on this map. See documentation accompanying the data.
 This publication is available for free download through GEOSCAN (<http://geoscan.nrcan.gc.ca/>)
 This map is not to be used for navigational purposes.

Map projection Lambert Conformal Conic, standard parallels 68°54'N and 70°54'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 2013, 20°02'E, decreasing 47W annually. Readings vary from 23°36'E in the NW corner to 10°03'E in the SE corner of the map.