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2nd
EDITION

CANADIAN GEOSCIENCE MAP 75

GEOLOGY

TECTONIC ASSEMBLAGE MAP OF HADLEY BAY

Victoria and Prince of Wales islands,
Nunavut–Northwest Territories



Map Information Document

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Canadian Geoscience Maps

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ABSTRACT

This map and the related geodatabase illustrate the bedrock geology of central and northeastern Victoria Island, Stefansson Island, and western Prince of Wales Island. Major features of the area include inliers of Neoarchean basement granitoid rocks; clastic rock-dominated sections associated with the late Paleoproterozoic Kilohigok Basin, and Mesoproterozoic Elu Basin; extensive Meso- and Neoproterozoic strata of Amundsen Basin, diabase sills, and extrusive basaltic rocks related to the Franklin Large Igneous Province (ca. 723 Ma) and unconformable Cambrian to Devonian strata of Arctic Platform.

RÉSUMÉ

Cette carte et la géodatabase qui s'y rapporte documentent la géologie du substratum rocheux dans le centre et le nord-est de l'île Victoria, l'île Stefansson et l'ouest de l'île Prince of Wales. Les principales entités géologiques de la région comprennent des boutonnières de roches granitoïdes du socle néoarchéen; des successions à prédominance de roches clastiques associées au bassin de Kilohigok

(Paléoprotérozoïque tardif) et au bassin d'Elu (Mésoprotérozoïque); de vastes strates mésoprotérozoïques et néoprotérozoïque du bassin d'Amundsen, des filons-couches de diabase et des roches basaltiques effusives apparentés à la grande province magmatique de Franklin (env. 723 Ma), ainsi que des strates discordantes d'âge cambrien à dévonien de la Plate-forme de l'Arctique.

ABOUT THE MAP

General Information

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Critical review by T. Hadlari

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 71°30'N and 73°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, 5°14'E, decreasing 29.5'W annually. Readings vary
from 15°20'E in the SW corner to 10°55'W in the NE corner of the map.

This map is not to be used for navigational purposes.

Title Photograph: Shaler Supergroup near Wynniatt Bay, Minto Inlier, northwestern Victoria Island, Northwest Territories. Photograph by R.H. Rainbird. 2013-072

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
Thrust fault: approximate, teeth indicate upthrust side
Diabase dyke
Mafic sill, ultramafic sill
Peridotite, gabbro, diabase sill

ABOUT THE GEOLOGY

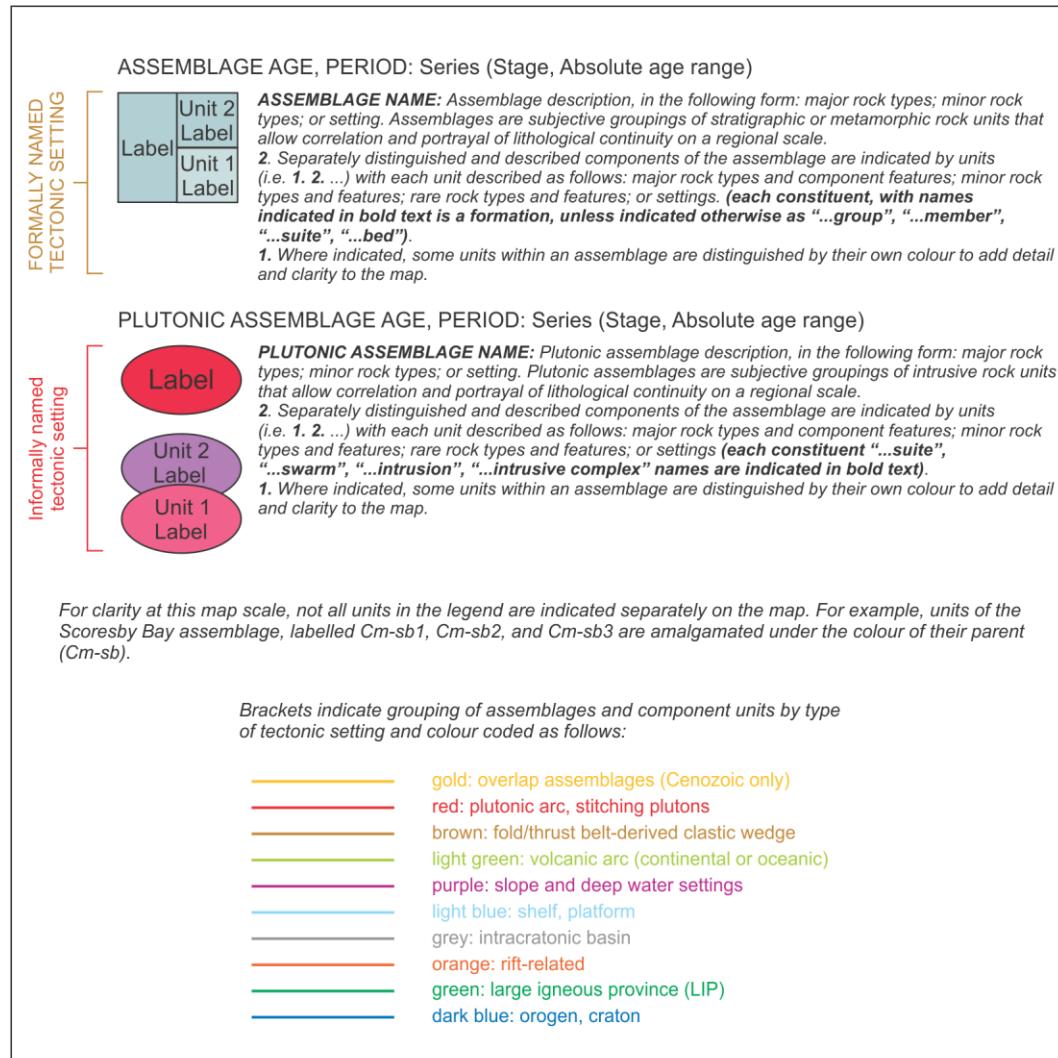


Figure 1. Explanation of map unit features.

References

Campbell, F.H.A., 1979. Stratigraphy and sedimentation in the Helikian Elu Basin and Hiukitak Platform, Bathurst Inlet-Melville Sound, Northwest Territories; Geological Survey of Canada, Paper no. 79-8.

Campbell, F.H.A., 1981. Stratigraphy and Tectono-depositional Relationships of the Proterozoic Rocks of the Hadley Bay Area, northern Victoria Island, District of Franklin; in Current Research Part A / Recherches En Cours Partie A; Geological Survey of Canada, Paper no. 81-1A; p. 15–22. doi:10.4095/108029

Christie, R.L., Fyles, J.G., Thorsteinsson, R., and Tozer, E.T., 1963. Geology, Banks, Victoria and Stefansson Islands, District of Franklin; Geological Survey of Canada, Map 1135A, scale 1:1 013 760.

Cook, D.G. and MacLean, B.C., 2004. Subsurface Proterozoic stratigraphy and tectonics of the western plains of the Northwest Territories; Geological Survey of Canada, Bulletin 575, 91p. doi:10.4095/215739

de Freitas, T.A., Harrison, J.C., and Mayr, U., 1997. Sequence stratigraphic correlation chart of the lower Paleozoic Franklinian succession, Canadian Arctic Islands and parts of north Greenland; Geological Survey of Canada, Open File 3410. doi:10.4095/208912

Dostal, J., Baragar, W.R.A., and Dupuy, C., 1986. Petrogenesis of the Natkusiak continental basalts, Victoria Island, Northwest Territories, Canada; Canadian Journal of Earth Sciences. Volume 23, Issue 5, p. 622–632.

Hulbert, L.J., Rainbird, R.H., Jefferson, C.W., and Friske, P., 2005. Map of mafic and ultramafic bodies related to the Franklin magmatic event, Minto Inlier, Victoria Island; Geological Survey of Canada, Open File 4928, scale 1:500 000. doi:10.4095/220616

Rainbird, R.H. (comp.), 1998. Bedrock and surficial geology, Wynniatt Bay, district of Franklin, Northwest Territories, NTS 78B and parts of NTS 77G; Geological Survey of Canada, Open File 3671, scale 1:125 000. doi:10.4095/210085

Rainbird, R.H., Jefferson, C.W., Hildebrand, R.S., and Worth, J.K., 1994. The Shaler Supergroup and revision of Neoproterozoic stratigraphy in Amundsen Basin, Northwest Territories; Geological Survey of Canada, Current Research 1994-C, p. 61–70.

Rainbird, R.H., Jefferson, C.W., and Young, G.M., 1996. The early Neoproterozoic sedimentary Succession B of northwestern Laurentia: Correlations and paleogeographic significance; Geological Society of America Bulletin, 108, p. 454–470.

Thorsteinsson, R. and Tozer, E.T., 1962. Banks, Victoria, and Stefansson Islands, Arctic Archipelago; Geological Survey of Canada, Memoir 330; 85 p.

Thorsteinsson, R. and Uyeno, T.T., (ed.), 1980. Stratigraphy and conodonts of Upper Silurian and Lower Devonian rocks in the environs of the Boothia Uplift, Canadian Arctic Archipelago; Geological Survey of Canada, Bulletin 292; 75 p. doi:10.4095/119467

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Coordinate System

Projection: Lambert Conformal Conic, standard parallels 68°54'N and 70°34'N

Units: metres

Horizontal Datum: NAD83

Vertical Datum: mean sea level

Bounding Coordinates

Western longitude: 112°00'00"W

Eastern longitude: 100°00'00"W

Northern latitude: 74°00'00"N

Southern latitude: 71°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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