References and additional ice flow and data from:

Cocking, R.B., Deblonde, C., Kerr, D.E., Campbell, J.E., Eagles, S., Everett, D., Huntley, D.H., Inglis, E., Laviolette, A., Parent, M., Plouffe, A., Robertson, L., Smith, I.R., and Weatherston, A., 2016. Surficial Data Model, version 2.2.0: Revisions to the science language of the integrated Geological Survey of Canada data model for surficial geology maps; Geological Survey of Canada, Open File 8041, 45 p. doi:10.4095/298767

Fyles, J.G., 1963. Surficial geology of Victoria and Stefansson islands, District of Franklin, Northwest Territories; Geological Survey of Canada, Bulletin 101, 38 p. doi:10.4095/100620

Hodgson, D.A., 1993. Quaternary geology of Wynniatt Bay, Victoria Island, Northwest Territories; Geological Survey of Canada, Open File 2718, scale 1:250 000. doi:10.4095/184217

Nixon, M.F., 1988. Till sampling program and presentation of physical and geochemical data from western Victoria Island, Northwest Territories, Geological Survey of Canada, Paper 88-15, 36 p. doi:10.4095/125172

Map ID	Lab. no.	Latitude	Longitude	Radiocarbon Age	Elevation (m a.s.l.)	Material
1	GSC-3777	72.232	111.536	10200 ± 130	65	Shells
2	GSC-3527	72.833	111.94	9880 ± 150	41 >65	Shells
3	GSC-3511	72.869	110.334	11800 ± 100	105 >120	Shells
4	GSC-5222	72.921	109.847	7180 ± 70	10 >20	Shells
5	GSC-3519	72.366	110.119	10900 ± 100	>91	Shells
6	GSC-4492	72.088	109.222	10400 ± 90	240 <240	Shells
7	GSC-4560	72.141	109.121	8030 ± 100	190	Peat
8	GSC-4356	72.141	109.121	10300 ± 90	190 <190	Shells
9	S-2954	72.853	108.025	9935 ± 190	68 >68	Whale bone
		72.853	108.025	10000 ± 110	70 >75	Shells

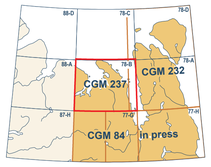
Table 1. Radiocarbon age.

Abstract

This new surficial geology map product represents the conversion of Open File 2718 and its legend only, using the Geological Survey of Canada's Surficial Data Model (SDM version 2.2) which can be found in Open File 8041. All geoscience knowledge and information from Open File 2718 that conformed to the current SDM were maintained during the conversion process. Additional material such as marginal notes or figures which may exist on the original map, are not included here. Supplementary, limited legacy information was added to complement the converted geoscience data. It is identified in the accompanying geodatabase. The purpose of converting legacy map data to a common science language and common legend is to enable and facilitate the efficient digital compilation, interpretation, management, and dissemination of geologic map information in a structured and consistent manner. This provides an effective knowledge management tool designed around a geodatabase which can expand following the type of information to appear on new surficial geology maps.

Résumé

Ce nouveau produit cartographique de la géologie des formations superficielles correspond à la conversion du Dossier public 2718 et de sa légende uniquement, en se servant du Modèle de données pour les formations superficielles (MDFS version 2.2) de la Commission géologique du Canada, lequel peut être consulté dans le Dossier public 8041. Toutes les connaissances et l'information de nature géoscientifique du Dossier public 2718 qui sont en conformité avec le modèle de données ont été conservées pendant le processus de conversion. Des éléments additionnels tels que des notes marginales ou des figures qui pourraient être présents sur la carte originale ne sont pas inclus ici. Des données complémentaires limitées ont été ajoutées pour compléter les données géoscientifiques converties. Elles sont identifiées dans la base de données géospatiales. Le but de la conversion de cartes publiées antérieurement suivant un langage scientifique commun et une légende commune est de permettre et de faciliter la compilation, l'interprétation, la gestion et la diffusion efficaces de l'information géologique cartographique en mode numérique de façon structurée et cohérente. Cette façon de faire offre un outil efficace de gestion des connaissances élaboré à l'aide d'une géodatabase qui pourra évoluer suivant le type d'information à paraître sur les nouvelles cartes des formations superficielles.



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

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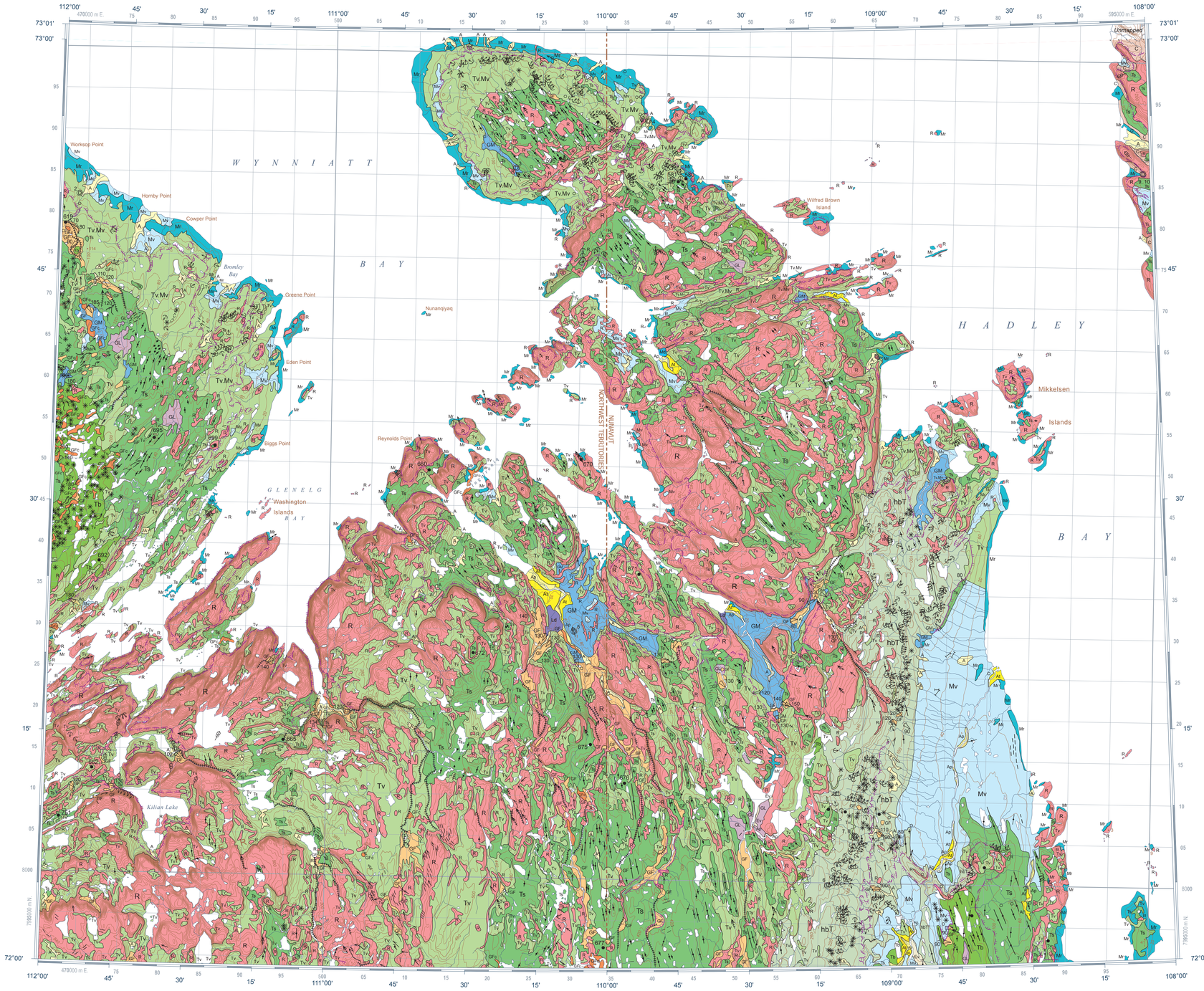
Natural Resources Canada / Ressources naturelles Canada

CANADIAN GEOSCIENCE MAP 237
SURFICIAL GEOLOGY
WYNNIATT BAY
Victoria Island, Northwest Territories–Nunavut
NTS 78-B and part of 78-C
1:250 000



QUATERNARY

HOLOCENE

NONGLACIAL ENVIRONMENT

Ev — **Eolian veneer:** sand and silt; less than 1 m thick; veneer of windblown sediments to the southeast of extensive active alluvial sediments.

C — **Colluvial deposits, undifferentiated:** silty diamicton to rubbly diamicton; 1 to 5 m thick; mass wasting material derived from rock and till; mapped only on Storkerson Peninsula; slope deposits included in Tv and R units elsewhere.

ALLUVIAL SEDIMENTS: gravel and silty sand; 1 to 10 m thick.

Ap — **Alluvial floodplain and channel sediments:** gravel to silty sand; greater than 1 m thick; sediments being deposited at present.

At — **Alluvial terraced sediments:** gravel to silty sand; 1 to 10 m thick; inactive channel sediments.

A — **Alluvial sediments, undifferentiated:** gravel to silty sand; 1 to 10 m thick; channel, terrace, fan and deltaic sediments.

Ld — **Lacustrine deltaic sediments:** gravel to silty sand; 1 to 10 m thick; active and inactive (raised) sediments.

MARINE SEDIMENTS: bouldery gravel to silt; shoreline, nearshore and offshore deposits left by the regressing sea; maximum elevation 60–140 m.

Mr — **Marine beach sediments:** bouldery to silty sand over till, rubbly to silty gravel over rock; a few centimetres to several metres thick; single ridges shown by symbol.

Md — **Marine deltaic sediments:** gravel to silty sand; 1 to 10 m thick; active and inactive (raised) sediments.

Mv — **Marine veneer:** stony sandy silt; few centimetres to 2 m thick; neritic sediments generally reworked from till; in valleys and basins, fine-grained sediment dominates; on open coasts, washed till or rubble may be exposed; marine fines on west shore of Hadley Bay overlie till much thinner than above marine limit, probably due to thaw of residual (buried) glacial ice in till.

EARLY HOLOCENE–LATE PLEISTOCENE

PROGLACIAL AND GLACIAL ENVIRONMENT

GM — **Glaciomarine sediments, undifferentiated:** silt or fine sand; massive to finely laminated deposits with scattered dropstones; 1 to 20 m thick; commonly gullied; deposited adjacent to major glacial meltwater outlets.

GL — **Glaciolacustrine sediments, undifferentiated:** silt or fine sand; 1 to 3(?) m thick; deposited in proglacial basins.

GFc — **Ice-contact glaciofluvial sediments:** bouldery gravel to gravelly sand; 2 to 10+ m thick; in ridges, knolls or hummocky complexes deposited in subglacial or englacial environments.

GF — **Glaciofluvial sediments, undifferentiated:** bouldery to gravelly sand; 1 to 20 m thick, proglacial floodplains, fans and deltas; includes marine deltas (show by a symbol) with massive to stratified sand or silt beds up to 20 m thick.

LATE PLEISTOCENE

GLACIAL ENVIRONMENT

GLACIAL SEDIMENTS (TILL): diamicton, calcareous loam; 10–50% of volume consists of boulder to granule size clasts of dolomite, minor sandstone, basalt, quartzite; 1 to 10+ m thick; till below the marine limit commonly reworked leaving local concentrations of boulders, gravel, sand or silt, and subdued or erased glacial landforms.

Ts — **Streamlined till:** stony loam; 1 to 10+ m thick; generally masks underlying bedrock except scattered outcrop; commonly shows lineations on airphotos, some fields of spindle drumlins; represents Victoria Island till deposited by continental glacier, possibly at Late Wisconsinan maximum.

Tv — **Till veneer:** stony loam; generally less than 2 m thick; overlies bedrock; may consist of any of the till units; too thin to mask underlying rock relief and structure; extensive areas of rock, pockets of thick till, rubbly slopes below rock outcrop are included in this unit; when Tv appears in a complex unit, it incorporates transported shelly marine sediments; light-toned; largely featureless, except for flowslides on steeper slopes; represents Winter Harbour till deposited by the Viscount Melville Sound ice shelf as blanket over rock and older till; 1 to 2 m thick, except thicker at margin.

Tb — **Till blanket:** stony loam; 1 to 10+ m thick; includes numerous gravel kame deposits, prominent frost-fissure troughs; represents Prince Albert Peninsula till; time of deposition unknown.

hbT — **Till, undifferentiated:** stony loam; locally incorporates glacial ice thrust sheets of shelly marine sediments; greater than 2 m thick; probably high ice content (glacial?), hence numerous flowslides; prominent frost-fissure troughs; deposited during Hadley Bay readvance.

QUATERNARY AND PRE-QUATERNARY

R — **Bedrock, undifferentiated:** Paleozoic dolomite, minor limestone chert and shale; subhorizontal; north and south of Shaler Mountains (i.e. on western Natkusiak Peninsula and northwest of Glenelg Bay); Proterozoic clastic and carbonate sediments, basalt flows, gabbro dykes and sills; underlying Shaler Mountains and west shore of Hadley Bay; rock fractured to blocks or disaggregated to pitted rubble by glacial and subaerial processes, except, polished intact bedrock locally exposed where streamlined till cover has been recently removed; rubble worked into discontinuous beaches locally below marine limit.

Complex units: two map-unit designators are used in cases where the surficial cover forms a complex area and the map units are too small to be mapped individually, yet constitute a significant areal extent of the total polygon (e.g. Tv.Mv designates an area of till veneer mixed with marine veneer). In such instances a dot ('.') is used to separate the map-unit designator.

Geological contact, defined
Limit of mapping
Retrogressive thaw flow
Beach crest, shoreline
Limit of marine submergence, drawn from 1:50 000 scale maps:
Approximate
Defined
Iceberg scour
Minor meltwater channel:
Paleoflow unknown
Proglacial, paleoflow known
Lateral
Minor moraine ridge, transverse or crevasse filling
Ice-contact scarp
Esker:
Paleoflow unspecified
Paleoflow known
Drumlinoid:
Large (length to scale)
Small
Crag-and-tail
Fluted bedrock, direction known
80 Delta, elevation in metres, paleocurrent known
Kame
Striation, ice flow direction known
Station location, ground observation
1 Dated sample location (radiocarbon date) (*see* Table 1)
865 Sample location (with sample number, *see* Nixon, 1988)

Recommended citation
Geological Survey of Canada, 2017. Surficial geology, Wynniatt Bay, Victoria Island, Northwest Territories–Nunavut, NTS 78-B and part of 78-C; Geological Survey of Canada, Canadian Geoscience Map 237 (preliminary, Surficial Data Model v. 2.2 conversion of Open File 2718), scale 1:250 000. doi:10.4095/299693

Celebrating 175 yrs

Geological Survey of Canada
Canadian Geoscience Maps

Canada

Author: Geological Survey of Canada

Geology based on field observations by J.G. Fyles, 1959, D.A. Hodgson and J.M. Bednarski, 1982, D.A. Hodgson, 1983, 1986, and airphoto interpretation by D.A. Hodgson, 1992, 1993.

Geology conforms to Surficial Data Model v. 2.2

Data conversion by D.E. Kerr, 2015

Geology has been spatially adjusted to fit the updated base.

Geomatics by S. Eagles

Cartography by N. Côté

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

Map projection Universal Transverse Mercator, zone 12. North American Datum 1983

SURFICIAL GEOLOGY
WYNNIATT BAY
Victoria Island, Northwest Territories–Nunavut
NTS 78-B and part of 78-C

1:250 000

5 0 5 10 15 20 km

Base map at the scale of 1:250 000 from Natural Resources Canada, with modifications. Elevations in metres above mean sea level

Proximity to the North Magnetic Pole causes the magnetic compass to be erratic in this area. Mean magnetic declination 2017, 10°44'E, decreasing 39.4' annually. Readings vary from 13°43'E in the SW corner to 7°05'E in the NE corner of the map.

This map is not to be used for navigational purposes.

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

Data may include additional observations not portrayed on this map. *See* map info document accompanying the downloaded data for more information about this publication.

This publication is available for free download through GEOSCAN (http://geoscan.nrcan.gc.ca/).

Preliminary publications in this series have not been scientifically edited.

CANADIAN GEOSCIENCE MAP 237
SURFICIAL GEOLOGY
WYNNIATT BAY
Victoria Island, Northwest Territories–Nunavut
NTS 78-B and part of 78-C