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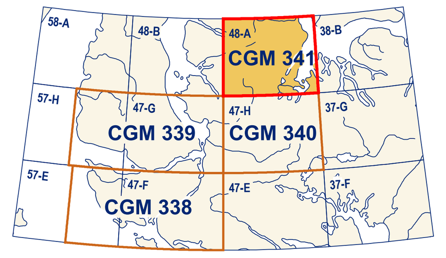
Abstract

This new surficial geology map product represents the conversion of Map 1962A (Dyke, 2000) and its legend, using the Geological Survey of Canada's Surficial Data Model (SDM version 2.3) (Deblonde et al., 2017). All geoscience knowledge and information from Map 1962A that conformed to the current SDM were maintained during the conversion process. 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 geological map information in a structured and consistent manner. This provides an effective knowledge management tool designed around a geodatabase that 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 de la Carte 1962A (Dyke, 2000) et de sa légende, en se servant du Modèle de données pour les formations superficielles (MDFS version 2.3) de la Commission géologique du Canada (Deblonde et al., 2017). Toutes les connaissances et l'information de nature géoscientifique de la Carte 1962A qui sont en conformité avec le modèle de données ont été conservées pendant le processus de conversion. 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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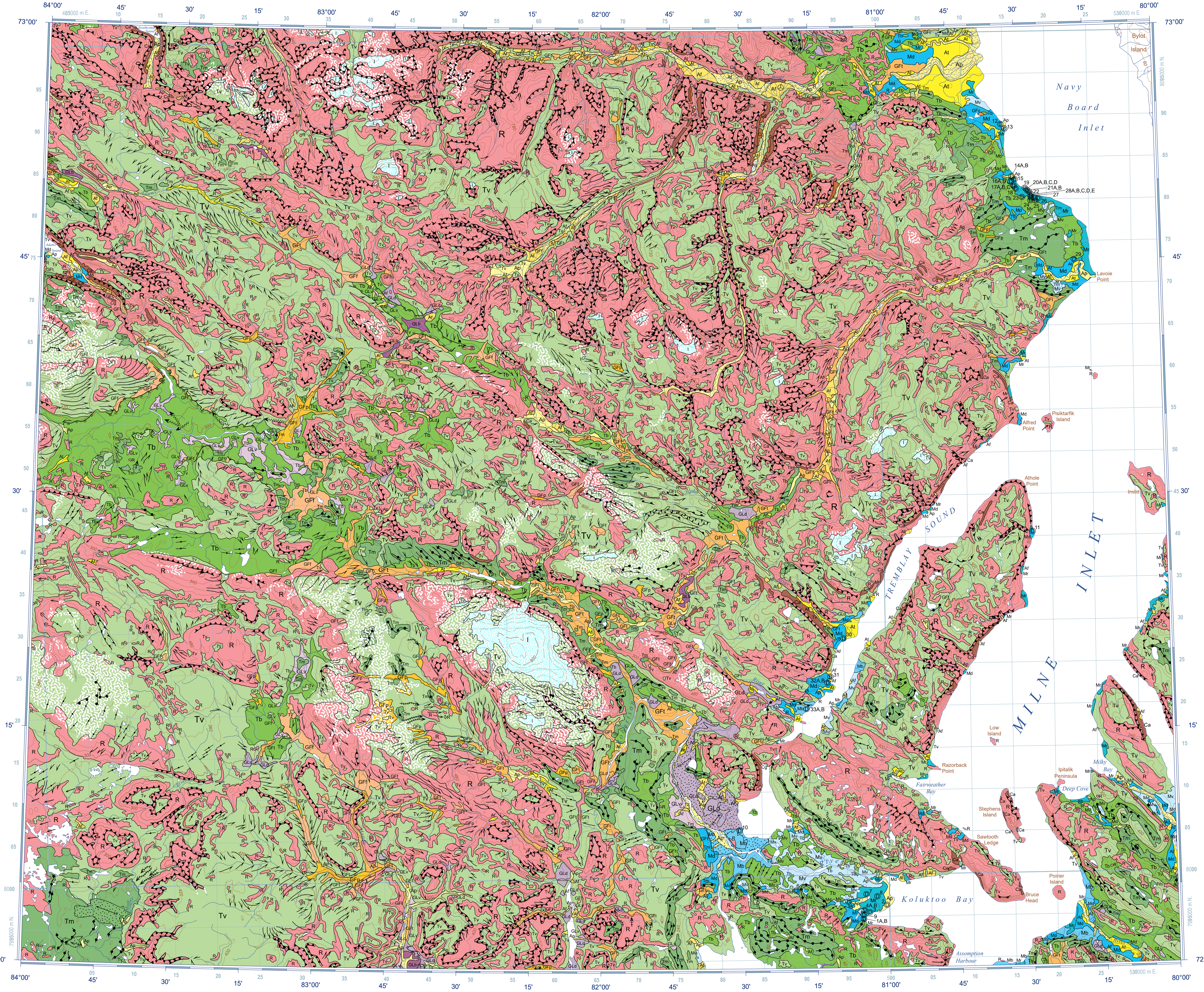
Natural Resources Canada / Ressources naturelles Canada

CANADIAN GEOSCIENCE MAP 341

SURFICIAL GEOLOGY

MILNE INLET

Baffin Island, Nunavut
NTS 48-A
1:250 000



QUATERNARY

HOLOCENE

I — **Glacier ice.**

COLLUVIAL DEPOSITS: block and rubble accumulations; 1–50 m thick.

Ca — **Talus scree deposits:** block and rubble accumulations; as much as 50 m thick; active; forming talus (scree) aprons and fans below cliffs resulting from rock falls and debris flows; commonly crossed by debris-flow channels and levées.

Cg — **Rock glacier:** talus; generally 10–50 m thick; deformed by active flow of interstitial or buried ice to form rock (talus) glaciers with transverse ridges and furrows, and pits with steep, unstable sides and fronts.

ALLUVIAL SEDIMENTS: alluvium, gravel and sand; 2–20 m thick.

Ap — **Alluvial floodplain sediments:** gravel and sand; 2–20 m thick; active braided floodplains; includes active proglacial outwash.

Af — **Alluvial fan sediments:** gravel and sand; 2–20 m thick; forming fans.

At — **Alluvial terraced sediments:** gravel and sand; 2–20 m thick; forming terraces.

MARINE AND GLACIOMARINE SEDIMENTS: gravel, sand, silt, and clay; 1–20 m thick; deposited in deltaic and beach environments during regression of the postglacial sea.

Mr — **Beach sediments:** gravel and sand; 1–5 m thick; forming ridges and swales.

Md — **Deltaic sediments:** clay, silt, sand, and gravel; 5–20 m thick; forming coarsening-upward sequences under dissected terraces.

Mv — **Marine veneer:** silt, clay silt, and fine sand with dropstones; veneer 1–2 m thick; deep-water proglacial environment.

Mb — **Marine blanket:** silt, clay silt, and fine sand with dropstones and minor gravel; 2–10 m thick; deep-water proglacial environment.

GLACIOLACUSTRINE SEDIMENTS: clay, silt, sand, and gravel deposited in glacier-dammed lakes in deep-water and deltaic environments.

GLd — **Deltaic sediments:** clay, silt, sand, and gravel; 5–20 m thick; forming coarsening-upward sequences under dissected terraces.

GLv — **Glaciolacustrine veneer:** silt, clay silt, and fine sand with dropstones; 1–2 m thick; deep-water proglacial environment.

GLb — **Glaciolacustrine blanket:** silt, clay silt, and fine sand with dropstones; 2–5 m thick; deep-water proglacial environment.

GFp — **Outwash plain sediments:** gravel and sand; 1–10 m thick; forming proglacial braided floodplains.

GFt — **Terraced sediments:** gravel and sand; 1–10 m thick; forming proglacial terraces.

GFf — **Outwash fan sediments:** gravel and sand; 1–10 m thick; forming proglacial fans.

GFc — **Ice-contact sediments:** gravel and sand; stratified; 1–5 m thick; forming kames.

EARLY HOLOCENE AND WISCONSINAN

GLACIAL SEDIMENTS (TILL): nonsorted stony muds; 0.5–60 m thick; deposited in subglacial and ice-marginal environments; lithic composition generally reflects underlying bedrock.

Tm — **End moraine complex:** diamicton; 5–60 m high; composed of or mantled by till; end moraines extensively kettled in places; large features mainly cored by debris-rich relict glacier ice.

Tv — **Till veneer:** diamicton; 0.5–2 m thick; discontinuous.

Tb — **Till blanket:** diamicton; 2–10 m thick; forming an undulating blanket with drumlinoids and ribbed moraines in places.

PRE-QUATERNARY

R — **Bedrock, undifferentiated:** rock of various compositions and ages (Jackson and Sangster, 1987); variously modified by glacial erosion during the Quaternary; hilly and hummocky surfaces, ice moulded in places, with lake basins in subglacially scoured regions; smooth surfaces exhibit little or no sign of glacial erosion in peninsular interiors (Dyke, 1993); cliffs resulting from glacial over-steepening.

Area covered by perennial icefields during the Little Ice Age
Area of active wind erosion; minor attached dunes
Geological contact, defined
Direction of eroding wind
Limit of submergence:
Marine, defined
Glaciolacustrine, defined
Glacial lake spillway, paleodrainage direction known
Meltwater channel:
Minor, subglacial and proglacial, paleoflow direction known
Lateral, barb on upslope side
Moraine:
Lateral
Major, end
Ice-contact scarp
Bouldery ridge, subglacially deformed felsenmeer
Esker, paleoflow direction known
Drumlinoid, length not mapped to scale
Fluted bedrock, ice-flow direction known
Cirque
Margin of dispersal train, teeth toward plume axis, steep side of teeth face down ice
Bedrock scarp
Pingo
Striation, ice-flow direction known
Dated sample location, radiocarbon, *see* Table 1

Table 1. Radiocarbon ages.

Map no.	Age (BP)	Lab. Identification	Elev. (m)	Material
1A	2720 ± 80	S-3399	6.25	Whalebone
1B	3240 ± 90	S-3400	14.0	Whalebone
2	440 ± 80	S-3401	0.25	Whalebone
3	580 ± 80	S-3402	1.5	Whalebone
4A	2980 ± 60	CAMS-33465	10.0	Whalebone
4B	3120 ± 90	S-3403	13.0	Whalebone
5	5490 ± 90	GSC-5398	29.0	Shells
6	7390 ± 70	GSC-5290	50.0	Shells
7	3080 ± 110	S-3404	16.5	Whalebone
8	2230 ± 110	S-3405	8.5	Whalebone
9	2350 ± 110	S-3406	10.75	Whalebone
10	5840 ± 80	GSC-5466	30.0	Shells
11	7340 ± 70	GSC-3060	23.0	Shells
12	8920 ± 90	GSC-5436	18.0	Shells
13	8310 ± 80	GSC-5378	0.0	Shells
14A	7940 ± 90	GSC-5380	15.0	Shells
14B	3300 ± 130	S-3423	6.75	Whalebone
15	1410 ± 120	S-3424	1.5	Whalebone
16A	6450 ± 150	S-3422	20.5	Whalebone
16B	7890 ± 170	S-3421	31.0	Whalebone
17A	4900 ± 140	S-3420	13.0	Whalebone
17B	4750 ± 140	S-3419	13.75	Whalebone
17C	4560 ± 140	S-3418	12.5	Whalebone
18	4450 ± 140	S-3417	11.5	Whalebone
19	2550 ± 120	S-3408	4.5	Whalebone
20A	3940 ± 110	S-3430	7.0	Whalebone
20B	4030 ± 110	S-3429	6.0	Whalebone
20C	3090 ± 110	S-3428	5.0	Whalebone
20D	2890 ± 110	S-3407	4.5	Whalebone
21A	2710 ± 120	S-3411	5.5	Whalebone
21B	2590 ± 120	S-3410	3.0	Whalebone
22	3840 ± 130	S-3412	8.0	Whalebone
23	6610 ± 140	S-3409	22.5	Whalebone
24	5770 ± 140	S-3413	17.0	Whalebone
25	5080 ± 130	S-3415	15.0	Whalebone
26	2890 ± 130	S-3416	4.0	Whalebone
27	3930 ± 130	S-3414	9.25	Whalebone
28A	3910 ± 140	S-3427	8.5	Whalebone
28B	3740 ± 130	S-3426	6.5	Whalebone
28C	4620 ± 140	S-3425	11.0	Whalebone
28D	4170 ± 60	GSC-5428	9.0	Driftwood
28E	4730 ± 50	TO-4985	10.0	Walrus tooth
29	9280 ± 80	GSC-5361	53.0	Shells
30	7680 ± 70	GSC-5325	33.0	Shells
31	3830 ± 60	GSC-5375	8.0	Shells
32A	6660 ± 70	GSC-5434	34.0	Shells
32B	6820 ± 100	GSC-5329	24.0	Shells
33A	6500 ± 80	GSC-5382	42.0	Shells
33B	7690 ± 100	GSC-5435	48.0	Shells

Dates are reported in the tables according to the reporting protocols of the various laboratories. All dates on terrestrial materials are normalized to the -25 per mil PDB standard. However, dates on marine materials are reported inconsistently. GSC marine dates are reported with a 400 year reservoir correction. TO and CAMS dates are reported without a reservoir correction. S dates are reported without normalization and without a reservoir correction.

Recommended citation
Geological Survey of Canada, 2018. Surficial geology, Milne Inlet, Baffin Island, Nunavut, NTS 48-A; Geological Survey of Canada, Canadian Geoscience Map 341 (Surficial Data Model v. 2.3 conversion of Map 1962A), scale 1:250 000. https://doi.org/10.4095/306471

CANADIAN GEOSCIENCE MAP 341

Geological Survey of Canada
Canadian Geoscience Maps

Author: Geological Survey of Canada

Geology by A.S. Dyke, 1991

Geology conforms to Surficial Data Model v. 2.3 (Deblonde et al., 2017)

Data conversion by D.E. Kerr, 2016

Geology has been spatially adjusted to fit the updated base

Geomatics by S. Eagles

Cartography by D. Viner

Scientific editing by A. Weatherston

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

Map projection Universal Transverse Mercator, zone 17
North American Datum 1983

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

SURFICIAL GEOLOGY
MILNE INLET
Baffin Island, Nunavut
NTS 48-A
1:250 000

5 0 5 10 15 20 km

Proximity to the North Magnetic Pole causes the magnetic compass to be erratic in this area.
Mean magnetic declination 2018, 33°48'W, decreasing 44.8' annually. Readings vary from 30°59'W in the SW corner to 36°14'W 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/).

Canada

CANADIAN GEOSCIENCE MAP 341
SURFICIAL GEOLOGY
MILNE INLET
Baffin Island, Nunavut
NTS 48-A