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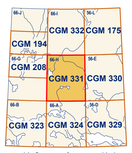
Abstract

This new surficial geology map product represents the conversion of Preliminary Map 9-1981 (Thomas, 1981) and its legend, using the Geological Survey of Canada's Surficial Data Model (SDM version 2.3.14) (Deblonde et al., 2018). All geoscience knowledge and information from Preliminary Map 9-1981 that conformed to the 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 préliminaire 9-1981 (Thomas, 1981) et de sa légende, en se servant du Modèle de données pour les formations superficielles (MDFS version 2.3.14) de la Commission géologique du Canada (Deblonde et al., 2018). Toutes les connaissances et l'information de nature géoscientifique de la Carte préliminaire 9-1981 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 de la géologie 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 331

SURFICIAL GEOLOGY

AMER LAKE

Nunavut

NTS 66-H

1:125 000

QUATERNARY

POST LAST GLACIATION

NONGLACIAL ENVIRONMENT

EOLIAN SEDIMENTS

Ev — **Eolian veneer:** silt and fine sand, moderately sorted and laminated, with cross-stratification and ripple marks in places; contains finely disseminated organic material in places; less than 2 m thick; may be underlain by bedrock when occurring as a secondary unit in complex polygons; deposits too small to be mapped are generally included within units Ap, At, GFc, and GF; may be unvegetated or vegetated, and inactive or active.

ALLUVIAL SEDIMENTS: silt, sand, and fine gravel, moderately to well sorted, but commonly interstratified with beds of distinctly different grain sizes; crossbedding, scour-and-fill structures, and ripple marks common; up to 5 m thick.

Ap — **Floodplain sediments:** silt to gravel; up to 5 m thick; active, seasonally flooded, unvegetated.

At — **Terraced sediments:** silt to gravel; up to 5 m thick; raised sediments above present flood zone, vegetated.

LAST GLACIATION

PROGLACIAL AND GLACIAL ENVIRONMENT

GLACIOMARINE SEDIMENTS: silt, sand, and in places clay or gravel; generally less than 10 m but up to 75 m thick; deposited in high stand of the sea during glacial retreat.

GMr — **Beach and nearshore sediments:** sand and silt or gravel, horizontal and cross-stratified; varied thickness, less than 1 m when overlying bedrock, but up to a few metres thick when overlying other sediments; occur as beaches and terraces.

GMn — **Littoral sediments and nearshore sediments:** sand and silt or gravel, horizontal and cross-stratified; veneer commonly less than 1 m; overlie bedrock; occur as beaches and terraces.

GMo — **Offshore sediments:** silt and clay, commonly rhythmically bedded; varied thickness; deep-water environment; may locally overlie bedrock.

GLACIOLACUSTRINE SEDIMENTS: silty fine sand to gravelly coarse sand, poorly sorted and stratified; generally 1 to 2 m, but up to 10 m thick; deposited in proglacial lakes.

GLr — **Beach and nearshore sediments:** sand, with well developed cross-stratification; generally 1 to 2 m thick; occur as beaches and terraces, may locally overlie bedrock.

GLACIOFLUVIAL SEDIMENTS

GFc — **Ice-contact sediments:** sand and gravel, irregular to cross-stratified with poor to moderate sorting; up to 30 m thick; occur as ice-contact deltas, sinuous ridges, isolated hummocks, local blanket deposits, and esker and kame complexes; may locally overlie bedrock.

GFv — **Glaciofluvial veneer:** sand and gravel; commonly less than 1 m thick; occurs as ice-contact sediments overlying bedrock.

GF — **Glaciofluvial sediments, undifferentiated:** sand and gravel, massive to well stratified and sorted; up to 70 m thick; with smooth flat to inclined surfaces; occur as deltas, fans, or terraced valley-fill deposits.

GLACIAL ENVIRONMENT

GLACIAL SEDIMENTS (TILL)

Tv — **Till veneer:** diamicton; commonly less than 1 m thick; overlies bedrock; when lag deposit overlay is present, the upper metre of till is abnormally sandy due to either removal of fines by wave action, or intermixing of glaciomarine, glaciolacustrine, or glaciofluvial sand; may include unmapped lag overlay when unit Tv occurs as a secondary unit in complex polygons.

T — **Till, undifferentiated:** silty, gravelly sand (diamicton) with less than 10% clay, nonsorted, nonstratified, compact but unlithified; generally 7 to 20 m thick; boulders up to 2 m long are common on the surface; occurs mainly as blanket on underlying bedrock or as hummocks and ridges (moraines); where washed scoured lag overlay is present, the upper metre is abnormally sandy due to either removal of fines by wave action, or intermixing of glaciomarine, glaciolacustrine or glaciofluvial sand; may include unmapped lag overlay when unit T occurs as a secondary unit in complex polygons.

PRE-QUATERNARY

R — **Bedrock, undifferentiated:** Precambrian igneous and metamorphic crystalline rock of varied composition and structure.

Complex units: two map-unit designators separated by a dot (.) are used where the surficial cover forms a complex area and the units are too small to be mapped individually (e.g. Tv.GFc designates an area of till veneer with numerous areas of glaciofluvial sediments). The map-unit polygon is coloured according to the dominant unit and labeled in descending order of cover.

Reworked sediments, till is abnormally sandy due to either removal of fines by wave action, or intermixing of glaciomarine, glaciolacustrine, or glaciofluvial sand.

Kettle, small

Geological contact, defined

Beach crest

Meltwater channel:
- *Minor, abandoned, paleocurrent direction unknown*
- *Minor, abandoned, paleocurrent direction known*

Moraine ridge:
- *Minor*
- *Major*

Esker, paleocurrent direction known

Drumlinoid, length not mapped to scale

Crag-and-tail, length not mapped to scale

Delta, paleocurrent direction known

Ice-contact delta, paleocurrent direction known

Shallow drillhole location

Station location:
- *Remote observation*
- *Ground observation*

Recommended citation
Geological Survey of Canada, 2023. Surficial geology, Amer Lake, Nunavut, NTS 66-H; Geological Survey of Canada, Canadian Geoscience Map 331 (Surficial Data Model v. 2.3.14 conversion of Preliminary Map 9-1981), scale 1:125 000. https://doi.org/10.4095/306288

CANADIAN GEOSCIENCE MAP 331

Geological Survey of Canada
Canadian Geoscience Maps

Canada

Author: Geological Survey of Canada

Geology by R.D. Thomas, 1976 and 1977

Compilation by R.D. Thomas

Geology conforms to Surficial Data Model v. 2.3.14 (Deblonde et al., 2018).

Data conversion by D.E. Kerr, 2018

Geomatics by B. Roadhouse, K. McNeil, J. Annett, and C.D. Stevens

Cartography by D. Viner

Scientific editing by L. Ewert

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 14 North American Datum 1983

SURFICIAL GEOLOGY
AMER LAKE
Nunavut
NTS 66-H
1:125 000

2 0 2 4 6 8 10 km

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

Mean magnetic declination 2023, 0°56'W, decreasing 9.5' annually. Readings vary from 0°39'E in the SW corner to 2°36'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 (gscpublications-pgcpublications@nrcan-rncan.gc.ca).

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 (https://geoscan.nrcan.gc.ca/).

CANADIAN GEOSCIENCE MAP 331
SURFICIAL GEOLOGY
AMER LAKE
Nunavut
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