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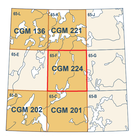
Abstract

This new surficial geology map product represents the conversion of Map 36-1989 and its legend, using the Geological Survey of Canada's Surficial Data Model (SDM version 2.1) which can be found in Open File 7741. All geoscience knowledge and information from Map 36-1989 that conformed to the current SDM were converted. This publication demonstrates the process 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 geo-database 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 est le résultat de la conversion de la Carte préliminaire 36-1989 et de sa légende, en se servant du Modèle de données pour les formations superficielles (MDFS version 2.1) de la Commission géologique du Canada, que l'on peut trouver dans le Dossier public 7741. Toutes les connaissances et l'information de nature géoscientifique de la Carte préliminaire 36-1989 qui sont en conformité avec le MDFS actuel ont été conservées pendant le processus de conversion. Le but de cette conversion des données cartographiques 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 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

Catalogue No. M183-1/224-2015E-PDF
ISBN 978-0-660-02567-4
doi:10.4095/296794

Natural Resources Canada | Ressources naturelles du Canada

CANADIAN GEOSCIENCE MAP 224

RECONNAISSANCE SURFICIAL GEOLOGY

ENNADAI

Nunavut

NTS 65-F

1:125 000

QUATERNARY

NONGLACIAL ENVIRONMENT

ALLUVIAL SEDIMENTS: stream-deposited material within modern active drainage systems; "modern" is defined as the period since retreat of the sea, proglacial lakes, or glacial ice.

Ab — **Alluvial blanket:** alluvium and outwash gravel, undifferentiated; variable thickness; occurs as flat areas in stream valleys or abandoned channels; surface generally covered by fibrous peat on which mosses, sedges, and grasses grow; surface characterized by frost polygons and thaw ponds related to vertical ice wedges extending to a depth of 2 to 3 m.

A — **Alluvial sediments, undifferentiated:** alluvium and gravel; generally less than 2 m thick; may include glaciofluvial gravels; overlies bedrock.

L — **Lacustrine sediments, undifferentiated:** silt and sand; variable thickness; associated with permanently drained postglacial lake basins; may include deposit of silty sediment with up to 15% organic carbon.

GLACIAL ENVIRONMENT

GLACIOLACUSTRINE SEDIMENTS: materials deposited in glacial lakes ponded on the western side of the Keewatin Ice Divide and glacial deposits modified by glaciolacustrine processes.

GLn — **Littoral and nearshore sediments:** sand, gravel, cobbles, or boulders; generally well sorted; variable thickness; deposited as beaches, bars, spits, and ice-pushed ridges; surface characterized by sparse vegetation and orthogonal frost cracks.

GLACIOFLUVIAL SEDIMENTS: water-sorted sediments deposited in, or around, or near a glacier, largely as a result of meltwater stream flow.

GFp — **Outwash plain sediments:** sand, gravel, variable thickness; with terraced, hummocky, and kettled surfaces, deposited by subaerial meltwater streams in areas above local sea level or level of proglacial lakes; includes 1) sediment deposited between the esker ridge and valley sides, commonly over stagnant ice that forms temporary floor, 2) outwash fans, 3) outwash plains, and 4) materials on the floor or at the mouth of meltwater channels; sparsely vegetated.

GFc — **Ice-contact sediments:** sand and gravel; stratified; variable thickness; deposited near ice margins in, over, or around ice or in ice tunnels, commonly as eskers but includes isolated hummocky deposits of uncertain origin; many eskers are beaded or interrupted at irregular intervals by major bulges marking positions where deltaic or subaqueous fan deposition occurred during periods of slowed ice retreat.

GLACIAL SEDIMENTS (TILL): poorly sorted sediments with distinctive forms deposited directly by glacial ice.

Th — **Hummocky till:** diamicton; variable thickness; without significant boulder cover; occurring as low, rounded hummocks; includes ridges of till that are minor end moraines or erosion remnants between subparallel meltwater channels; extensive areas are present in the region of the Keewatin Ice Divide and in some places adjacent to areas of ribbed moraines (Tr); exact origin unknown; may have formed in association with stagnant ice and in some places from erosion of till surfaces by streams in anastomosing meltwater channels; vegetation and periglacial features similar to those on till blanket (Tb).

Tm — **Moraine complex:** diamicton, sand, and gravel, undifferentiated; variable thickness; disintegration moraine; occurs as short ridges or hummocks, probably deposited in holes and crevasses in stagnant ice; ridge orientation may form a reticulate pattern; sparsely vegetated; periglacial features vary from mudboils in till to frost cracks in sorted sediments.

Tr — **Ridged moraine:** diamicton, in places sand and gravel; generally bouldery; variable thickness; ribbed (Rogen) moraine, forming hummocks and straight to sinuous ridges, generally less than 1 km long and 2 to 10 m high; ridges generally oriented at right angles and form trains parallel to direction of ice flow; individual ribs may be asymmetric in cross-section with steep side facing down-ice; trains of ribs pass laterally into drumlin fields and may be drumlinized in the transition zone; surfaces have sparse vegetation and generally a heavy cover of large boulders and mudboils where composed of till, and marked by frost cracks where composed of gravel.

Tv — **Till veneer:** diamicton; less than 1 m thick; associated with complex map units.

Tb — **Till blanket:** generally sandy, silty diamicton; noncalcareous; grey till; variable thickness; includes areas of clay-rich red till; surface characterized by 1–2 m diameter patches of bare or lichen-covered mud (mudboils) surrounded by elevated peaty rings on which grow shrubs, mosses, and grasses; at lake margins characterized by cobble-covered, 2 m wide ribs separated by 2 m wide boulder filled troughs, generally trending downslope to a water depth of about 2 m; may include prominent striped pattern on airphotos.

PRE-QUATERNARY

R — **Bedrock, undifferentiated:** Precambrian intrusive igneous and metamorphic rocks, red volcanic rocks, and unmetamorphosed sediments; surface comprises more than 80% outcrop; vegetation sparse; surface may be glacially rounded or covered by felsenmeer; bedrock (20 to 80% outcrop) is mantled with less than 1 m of the surficial deposit indicated in complex polygons.

Where the surficial cover forms a complex pattern and the map units are too small to be mapped individually, yet constitutes a significant aerial extent of the total polygon, a dot (·) separates the first dominant map unit designator from the less-abundant secondary unit (e.g. R·Tv designates an area of bedrock with numerous small deposits of till veneer).

A stratigraphic relationship is shown with a maximum of two map unit designators separated by a slash ("/") (e.g. Tr/R designates ridged moraine overlying bedrock).

- Geological contact
- Beach crest, bar, or ice-shoved ridge
- Major meltwater channel, direction unknown
- Minor moraine ridge
- Esker, direction known
- Drumlinoid
- Crag-and-tail
- Hummock (hummocky moraine)
- **Glacial striations:**
  - Striation, direction unknown
  - Striation, direction known
  - Crossed striations, 1 = older, 2 = younger
- Small bedrock outcrop

Recommended citation
Geological Survey of Canada, 2016. Reconnaissance surficial geology, Ennadai, Nunavut, NTS 65-F; Geological Survey of Canada, Canadian Geoscience Map 224 (preliminary, Surficial Data Model v. 2.1 conversion of Map 36-1989), scale 1:125 000. doi:10.4095/296794

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Geological Survey of Canada
Canadian Geoscience Maps

Canada

Author: Geological Survey of Canada

Geology based on airphoto interpretation by J.M. Aylesworth and M.D. Clarke, 1989

Geology conforms to Surficial Data Model v. 2.1

Data conversion by D.E. Kerr, 2014, 2015

Geomatics and cartography by L. Landon-Roy

Geology has been spacially adjusted to fit the updated base

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

CANADIAN GEOSCIENCE MAP 224

RECONNAISSANCE SURFICIAL GEOLOGY

ENNADAI

Nunavut

NTS 65-F

1:125 000

2 0 2 4 6 8 10 km

Base map at the scale of 1:50 000 from Natural Resources Canada, with modifications.
Elevations in metres above mean sea level

Mean magnetic declination 2016, 5°07'E, decreasing 8.5' annually. Readings vary from 6°22'E in the SW corner to 3°46'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 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.

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