References and additional striation data from:

Aylsworth, J.M., 1989. Surficial geology, Tebesjuak Lake, District of Keewatin, Northwest Territories; Geological Survey of Canada, Map 35-1989, scale 1:125 000. doi:10.4095/127676

Cocking, R.B., Deblonde, C., Kerr, D.E., Campbell, J.E., Eagles, S., Everett, D., Huntley, D.H., Inglis, E., Lavoilette, 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

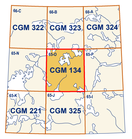
Wright, G.M., 1955. Geological notes on central District of Keewatin, Northwest Territories; Geological Survey of Canada, Paper 55-17, 21 p. doi:10.4095/101294

Abstract

This new surficial geology map product represents the conversion of Map 35-1989 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 Map 35-1989 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 de la Carte 35-1989 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 de la Carte 35-1989 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 géobatabase 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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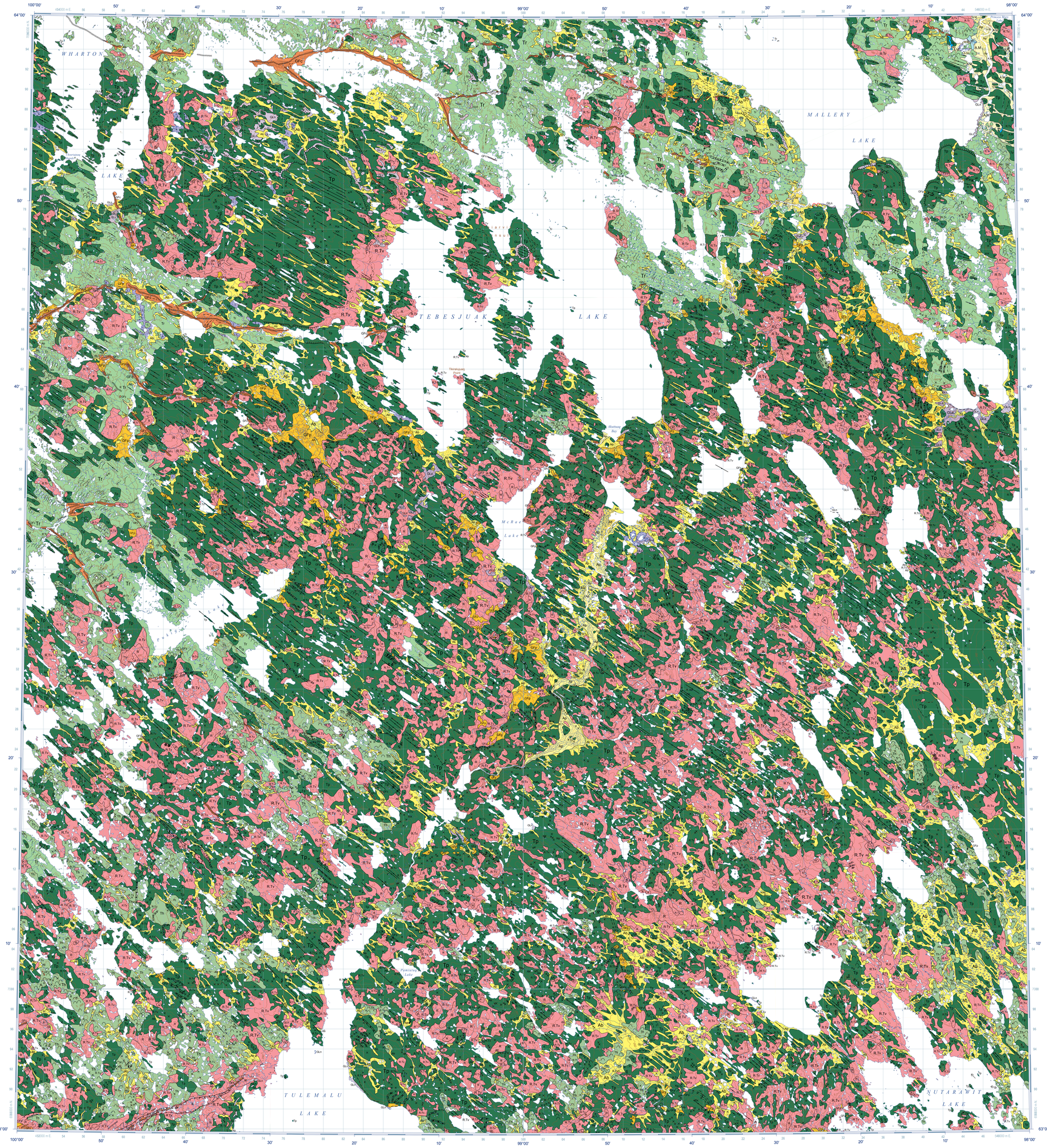
CANADIAN GEOSCIENCE MAP 134
RECONNAISSANCE SURFICIAL GEOLOGY
TEBESJUAK LAKE
Nunavut
NTS 65-O
1:125 000



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.

- **Ap** — **Alluvial floodplain sediments:** silt, sand, and gravel; variable thickness; deposited in channels and on floodplains; may include alluvium in terraces which formed as streams cut to present level in glacial and marine sedimentary fill.
- **Af** — **Alluvial fan sediments:** sand, gravel, and boulders; variable thickness; deposited as deltas where modern streams enter lakes.
- **Ab** — **Alluvial blanket:** alluvium and outwash gravel; undifferentiated; variable thickness; occurs as flat areas in stream valleys or abandoned channels above marine limit; 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:** modern alluvium mixed with marine silt and sand that were washed from slopes by wave action or deposited in the sea by meltwater streams; variable thickness; occurs as flat areas consisting of 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.
- **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.

MARINE SEDIMENTS: sediments deposited in the Tyrrell Sea and glacial deposits modified by marine processes.

- **Mn** — **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.
- **Mo** — **Marine offshore sediments:** clay, silt and silty sand; variable thickness; deposited in a deep water, offshore environment; may occur anywhere below marine limit but distribution is patchy above 60 m a.s.l.; thickest deposits generally occur in major river valleys or valleys with major eskers; mottled pattern on airphotos; difficult to differentiate on airphotos from Tp; surface vegetation is dominantly shrubs in turf circles around mudboils; mottled pattern due to shrub- and mudboil-covered mounds, 5 to 10 m in diameter and less than 0.5 m high, surrounded by light coloured grass-sedge vegetation; likely has high ground ice content.
- **M** — **Marine, undifferentiated sediments:** silt; variable thickness; blanketing till-cored landforms or in depressions among till landforms; appears as a secondary unit in complex polygons.

GLACIAL ENVIRONMENT

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

- **GLd** — **Deltaic sediments:** sand, pebbly sand, and gravel; variable thickness; deposited in glacial lakes by glacial or nonglacial streams and subsequently abandoned as glacial lakes drained; surface characterized by sparse vegetation and polygonal frost cracks.
- **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 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 till 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 plain (Tp).
- **Tr** — **Ridged moraine:** bouldery diamicton, in places sand and gravel; 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.
- **Tp** — **Till plain:** sandy, silty diamicton; noncalcareous; grey; variable thickness but greater than 2 m; may include areas of clay-rich red till; till plain 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; striped pattern thought to be due to solifluction of clay-rich till; prominent striped pattern on airphotos.
- **Tv** — **Till veneer:** diamicton; poorly sorted; less than 1 m thick; deposited directly by glacial ice; appears as a secondary unit in complex polygons.

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.

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. R.Tv designates an area of bedrock with numerous small deposits of till veneer). In such instances a dot (`.`) is used to separate the map-unit designator.

- Dune crest
- Geological contact:
  - *Confidence defined*
  - *Confidence approximate*
- Terrace scarp
- Beach crest
- Major meltwater channel, direction unknown
- Minor moraine ridge
- Esker, paleoflow known
- Drumlinoid
- Crag-and-tail
- Hummock
- Striations:
  - *Ice flow direction poorly defined, unknown*
  - *Ice flow direction unknown*
  - *Ice flow direction known*
  - *Crossed, 1 = older, 2 = younger*
- Small outcrop

Recommended citation
Geological Survey of Canada. 2017. Reconnaissance surficial geology, Tebesjuak Lake, Nunavut, NTS 65-O; Geological Survey of Canada, Canadian Geoscience Map 134 (preliminary, Surficial Data Model v. 2.2 conversion of Map 35-1989), scale 1:125 000. doi:10.4095/299823

Celebrating 175 ans

Geological Survey of Canada
Canadian Geoscience Maps

Canada

Author: Geological Survey of Canada

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

Geology conforms to Surficial Data Model v. 2.2

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

Geomatics by S. Eagles

Cartography by M.J. Baldock

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

RECONNAISSANCE SURFICIAL GEOLOGY
TEBESJUAK LAKE
Nunavut
NTS 65-O

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 above mean sea level

Mean magnetic declination 2017, 1°44′E, decreasing 6.1′ annually. Readings vary from 0°06′E in the NE corner to 3°15′E in the SW 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 134
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