

SURFICIAL DEPOSITS

QUATERNARY

HOLOCENE

ALLUVIAL DEPOSITS: sorted sand, silt and clay with minor gravel and organic debris; commonly stratified; deposited along and/or within modern rivers and streams.

A **Alluvial sediments, undifferentiated:** sand, gravel and mud. These 1 to 2 m thick. Sandy alluvial gravels along the upper reaches of Gordon River are bare of vegetation, and may be recent alluvial deposits. Small alluvial units occur in the lower reaches of streams near the coast.

HOLOCENE - LATE PREISTOCENE

MARINE DEPOSITS: sediments deposited within the Tyrrel Sea. 1 to 3 metres thick, primarily derived from reworking of glacial sediments. Locally includes fine-grained silty or silty clayey shales. The stratigraphic sequence in this area is derived from an elevation of 140 m a.s.l. near Daly Bay to greater than 150 m along the Hudson Bay coast to the east.

Mt **Marine terrace:** sand and/or gravel; less than 2 m thick; occurs as patches interspersed with bedrock or lies commonly, other surficial deposits. In places, this unit contains till ridges, subglacial moraines, and reworked esker fragments.

Mt2 **Marine terrace sediments:** sand and gravel; 2 to 5 m thick; generally well-sorted material; forms ridges of beach ridges, terraces, and terraces, commonly stripes with localities, derived primarily from reworking of esker sediments. Surfaces characterized by orthogonal frost cracks. Isolated beach ridges are marked as symbols.

Mt3 **Marine terrace sediments:** sand and gravel; up to 10 m thick; forms planar surfaces. The main deposit formed at 140-150 m a.s.l., where a large esker along Micaia Creek eroded into the high glacial lakes.

Mt4 **Marine terrace:** sand and silt; more than 2 m thick; forms a continuous cover that generally masks underlying sediments and bedrock.

GLACIOFLUVIAL DEPOSITS: sand, gravel and minor silt; well to poorly sorted; massive to stratified; deposited by meltwater streams, either from, or in contact with, glacial ice in a subglacial or subglacial environment. Some marks are, glaciofluvial channels are commonly modified and/or reworked by wave action.

GFp **Outwash sediments:** sand and gravel; 1 to 10 m thick; moderately to well-sorted; commonly with lutes and/or channel scars on the surface; they represent the distal facies of ice-contact stratified drift deposited in a proglacial, subglacial environment within meltwater channels or corridors.

GFs **Isolated moraine:** sand, gravel, and cobbles; 5 to 20 m thick; moderately to well sorted; deposited in a subglacial or proglacial environment, commonly with lutes and/or channel scars on the surface, and commonly have distinct lateral boundaries. Most of the moraine flanks have been modified and lapped by wave action. The ridge crests are unmodified and modified waves are denoted by separate symbols.

GF **Glaciofluvial sediments, undifferentiated (Meltwater corridor complex):** higher and composed of several landform elements, sediment wedge (facies) which cannot be separated at the scale of mapping; composed primarily of sand and gravel; interspersed with bedrock, sandy diamict, and rounded till; 2 to 5 m thick; formed in subglacial corridors and multiple subglacial meltwater channels; proglacial glaciofluvial ice-contact landforms are esker ridges, hummocks, short esker transverse ridges, spines and knolls; interspersed with rounded till features. The complex range from 500 m to 2.5 km in width, and commonly have distinct lateral boundaries. Most of the moraine flanks have been modified and lapped by wave action.

GLACIAL DEPOSITS: fine sand deposits (SD); covered to poorly sorted, generally massive; thickness can exceed 20 m in buried depressions and stratified landforms but is generally less than 5 m deposited beneath active ice as lodgment and basal melt till. Surface marker abundance is variable, related either to glacial deposition or subsequent winnowing and removal of the fines by meltwater or wave action. Below marine limit, the surface is commonly modified and reworked by wave action.

Tv **Till veneer:** locally fine sand; dimension less than 1 m thick; forms a discontinuous cover over bedrock and is interspersed with rock outcrops; deposits are the result of melt debris of underlying rock strata; mudstone and fresh-water slate are common. Till ridges and DeGloré moraines are present within this unit and below elevations of 150 m a.s.l.

Ts **Till blanket:** fine sand; dimension: 1 m to more than 20 m thick; forms a continuous cover that generally masks underlying bedrock topography; occurs as till slabs or sheets of stratified forms such as drumlins and longitudinal forms projecting on the slope towards the southeast and south-southwest, and later to the south near Daly Bay; mudstone are common on landform surfaces.

PRE-QUATERNARY

BEDECK: Archean to Paleoproterozoic metamorphosed intrusive igneous and sedimentary rocks.

R **Bedrock, undifferentiated:** intact and fresh-ripen outcrops of various lithologies, predominantly granite to intermediate gneisses, granodiorites, and minor supracrustal rocks. Dikes trend NE-SW. Curving, multiplanar folds and faults form prominent topographic features. Vastly modified by glacial erosion; surfaces range from rough and weathered to glacially polished and stratified.

Stratigraphic relationships: where observed or can be confidently inferred, a map and stratigraphic sequences is shown with a maximum of two map units designates separated by a dash (1/2) (e.g., MtTv designates marine veneer overlying till veneer).

Geological boundary (defined)

- Geological boundary (defined)
- Fault (dashed)
- - - - - Limit of marine submergence (confidence defined, environment glaciomarine)
- Esker ridge (with beach ridges/terraces, sense known or inferred)
- Esker ridge (senses known or inferred)
- Ice-contact terrace scarp
- Major subglacial meltwater corridor (well-defined lateral limit)
- Fluted bedrock (sense known)
- Minor moraine ridge (DeGloré, recessional, rogen)
- Fluted bedrock (sense known)
- Crag and-tail ridge
- Drumlinoid ridge
- Delta (sense known)
- Transverse depression
- Crossed solution (1 = object, 2 = paucity)
- Small outcrop
- Observation site
- Sample site

REFERENCES

McMartin, I., Wodicka, N., Bazoz, D., Boyd, B., and Pervall, J.A., in press. Till composition across the Rae coast south of Water Bay, Nunavut: results from the Geo-Mapping Frontiers' Tertiary project. Geological Survey of Canada, Open File 7417.

Recommended citation

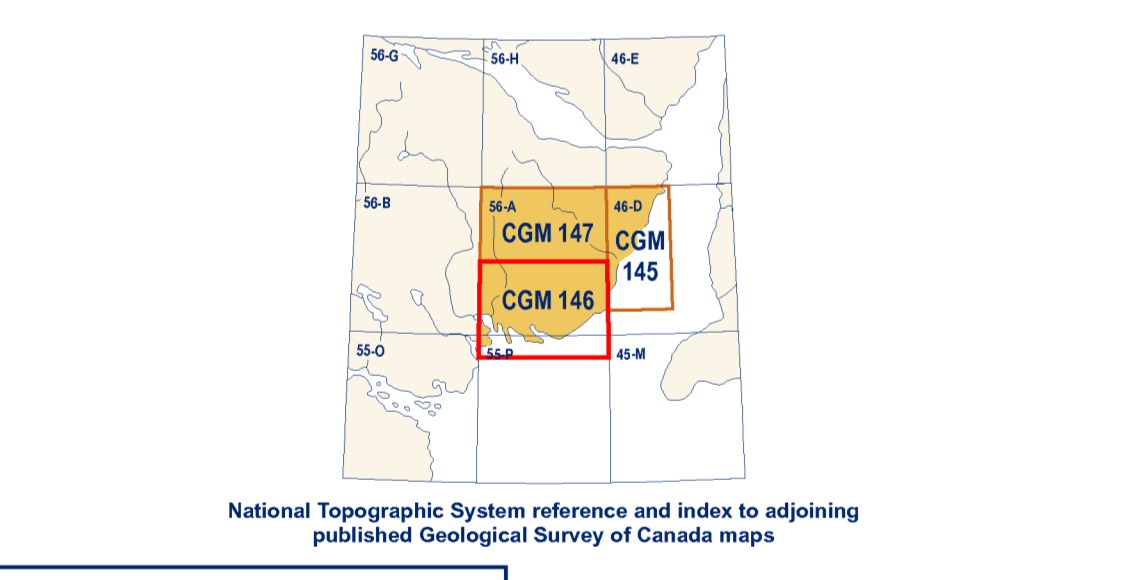
Dredge, L.A., McMartin, I. and Campbell, J.E., 2013. Reconnaissance surficial geology, Daly Bay (south) and Cape Fullerton (north), Nunavut, NTS 56-A south and NTS 55-P north. Geological Survey of Canada, Canadian Geoscience Map 146 (preliminary), scale 1:100 000, doi:10.46803/28345

Abstract

Preliminary surficial geology maps, based on air photo interpretation and limited field data, were undertaken in the Daly Bay South area (NTS 56-A), south of the Daly Bay (Daly) coast, west of Micaia Creek, Nunavut, in order to provide an understanding of the distribution and nature of surficial sediments, and regional glacial history. The area is underlain by tilted and faulted bedrock consisting of gneiss, amphibolite and quartzite. Erosion of the area is underlain by tilted and faulted bedrock consisting of gneiss, amphibolite and quartzite. Erosion of the area is underlain by tilted and faulted bedrock consisting of gneiss, amphibolite and quartzite. Erosion of the area is underlain by tilted and faulted bedrock consisting of gneiss, amphibolite and quartzite.

Résumé

Plus d'images et de données de terrain ont été utilisées pour établir la répartition et la nature des sédiments de surface et l'histoire glaciaire de l'ouest de la baie Daly (Daly) dans le sud-ouest du territoire du Nunavut. L'objectif principal est de fournir une compréhension de la répartition et de la nature des sédiments de surface et de l'histoire glaciaire régionale. La zone est sous-jacente à une roche sédimentaire plissée et faillée composée de gneiss, d'amphibolite et de quartzite. L'érosion de la zone est sous-jacente à une roche sédimentaire plissée et faillée composée de gneiss, d'amphibolite et de quartzite.



Cover illustration

Flights of raised beaches of sand and gravel, accompanied by dunes, marking the glacial marine limit (140 m a.s.l.), west of Micaia Creek, Nunavut. Photograph by: M.Martin, 2013-09.

Catalogue No. M183-1148-2013E-PDF
ISBN 978-1-105-22260-0
doi:10.46803/28345

© Her Majesty the Queen in Right of Canada 2013

CANADIAN GEOSCIENCE MAP 146

RECONNAISSANCE SURFICIAL GEOLOGY

DALY BAY (SOUTH) AND CAPE FULLERTON (NORTH)

Nunavut
NTS 56-A south and NTS 55-P north
1:100 000