



LEGEND

GLACIOFLUVIAL DEPOSITS: Well stratified to massive sand, gravel with minor silt and clay and thin to medium silt and clay lenses. These deposits are deposited by glacial ice. These deposits are deposited by glacial ice. These deposits are deposited by glacial ice.

GLACIOFLUVIAL VENEER: Stratified to massive gravel, sand and silt. May occur in patches or gravel lag over rock; thicknesses are less than 1 m.

GLACIOFLUVIAL TERRACE (OUTWASH): A scarp or face with a low-relief mantle of moderately to well sorted, cross-stratified sand and rounded gravels elevated above.

GLACIOFLUVIAL PLAIN (OUTWASH): Low relief mantle of moderately to well sorted, cross-stratified sand and rounded gravels; 1 to 20 m thick.

HUMMOCKY GLACIOFLUVIAL (ICE-CONTACT): Complex arrangement of slopes extending from rounded depressions to irregular conical mounds and includes water ridges. Composed primarily of poorly sorted sand and gravel from 5 to 15 m thick.

GLACIOFLUVIAL - UNDIFFERENTIATED: Glaciofluvial complex - units are too small to be represented at the scale of mapping. Consists primarily of glaciofluvial units, but may have relatively small pockets of alluvial, colluvial, till and glaciofluvial sediments.

MORAINAL SEDIMENTS (TILL): Dilation granitic to basaltic silt and clay suspended in a poorly sorted clay to sand matrix deposited directly by glacial ice, repositioned directly from glacial ice by sediment gravity flow and/or ductile deformation. Contrasting vegetation cover reflecting compositional differences. Thicknesses range from 1 to >20 m.

Laurelside TILL: Gray to dark brown stony granitic till with sandy matrix; occurs as veneers, blankets and hummocky deposits.

TILL VENEER: Till less than 1 m thick; occurs in patches over rock and is interpreted with rock outcrops; deposits are thin enough to reveal details of underlying rock structure.

TILL BLANKET: Surface morphology conforms to underlying bedrock topography. May exhibit ring-and-belt, flute, and/or rock mounds. Some areas have large flat polygons and stone nets. Thicknesses generally from 1 to 5 m.

TILL PLAIN: Surface morphology forms a plain with <2 m of relief. Generally masks underlying topography. Cores areas have large flat polygons and stone nets. Thicknesses greater than 5 m.

ROLLING TILL PLAIN: Surface morphology forms gently rolling plains with 1 to 3 m of relief; may exhibit flutes. Generally masks underlying topography. Some areas have large flat polygons and stone nets. Thicknesses greater than 5 m.

ROGUEY TILL COMPLEX: Surface morphology of parallel ridges with amphidules less than 15 m and well-sorted sand and gravel. Contrasts with other transverse to parallel ridges. Composed of till and glaciofluvial sediments. Thickness is variable, but is usually less than 5 m.

HUMMOCKY TILL: Stratified to massive dilation and interstratified glaciofluvial sand and gravel. Stratification often exhibits synclinal deformation features caused by slumping or heaving. May contain relatively small pockets of alluvial, colluvial, and glaciofluvial sediments. Forms hummocky surface (see name and notes regarding). In places the unit may exhibit prominent ridges marking major recessional ice margins, or diffuse zones marking boundaries between glacial ice regimes.

TILL - UNDIFFERENTIATED: Till complex - units are too small to be presented at the scale of mapping. May contain relatively small pockets of alluvial, colluvial, glaciofluvial and/or glaciofluvial sediments.

PRE-QUATERNARY UNITS

ROCK: Bare, coherent outcrop of various lithologies; locally glacial polished and striated or sculpted by glaciofluvial processes (see Sandeman et al. 2001a, b).

Geological boundary (defined, approximate, inferred)

Limit of mapping

Strike (direction known)

Abandoned channel, minor

Abandoned channel, major

Beaches

Direction of recent eolian movement of sand

DESCRIPTIVE NOTES

GLACIOFLUVIAL DEPOSITS: Stratified sand, silt and clay deposited in lakes drained by glacial ice. Distally deposited glaciofluvial sediments typically underlie plains or gently rolling terrain. Proximally deposited glaciofluvial sediments may underlie ridges, hummocky, or tilted terrain created by subsequent meltback.

GLACIOFLUVIAL PLAIN: Well stratified clay, silt and sand. Rolling (topography >3°) to undulating (slopes 1 to 3°) surface morphology and masks underlying topography. Thickness greater than 5 m.

GLACIOFLUVIAL DELTA: A scarp or face with a low-relief mantle of cross-stratified sand and rounded gravels associated with glaciofluvial deposition into a glaciofluvial environment.

GLACIOFLUVIAL - UNDIFFERENTIATED: Glaciofluvial complex - units are too small to be represented at the scale of mapping. Consists primarily of glaciofluvial units, but may have relatively small pockets of alluvial, colluvial, till and glaciofluvial sediments.

BACKGROUND

Quaternary research in or near the Committee Bay Project study area has produced numerous theories regarding the glacial history of the Laurentian Shield. The Committee Bay Project is a multi-disciplinary project that is designed to provide a regional overview of the glacial history of the Laurentian Shield. The project is designed to provide a regional overview of the glacial history of the Laurentian Shield. The project is designed to provide a regional overview of the glacial history of the Laurentian Shield.

GLACIAL GEOMORPHOLOGY AND GEOLOGY

The Laugland Lake map area (NTS 56K) has extensive till plains in the north, south, central and west-central regions. Some of these plains are characterized by well developed, streamlined landforms (e.g., flutes) that typically point to the north-northwest (Fig. 1). In the glaciofluvial veneer, the till and glaciofluvial sediments are associated with a large number of small-scale features. These features include small-scale ridges, mounds, and depressions. The features are associated with a large number of small-scale features. These features include small-scale ridges, mounds, and depressions.

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OPEN FILE 4278
SURFICIAL GEOLOGY
LAUGHLAND LAKE SOUTH
NUNAVUT

Scale 1:100 000/Echelle 1/100 000

Geology by E.C. Little and T. Feilley, 2001
Geological compilation by E.C. Little and T. Feilley, 2001
Co-ordinated through the auspices of the Committee Bay TGI Project
Digital data preparation by G. Gilbert, Canada-Nunavut Geoscience Office (CNVGO)
Digital cartography by R.L. Alard, Earth Sciences Sector Information Division (ESS-Inf)

Universal Transverse Mercator Projection
North American Datum 1983
© Her Majesty the Queen in Right of Canada 2003

Projection: Système de référence géodésique nord-américain, 1983
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Proximity to the North Magnetic Pole causes the magnetic compass to be erratic in this area. Mean magnetic declination 2003, 9°35'W, decreasing 4.0' annually. Readings vary from 7°24'W in the SW corner to 12°21'W in the NE corner of the map.

Elevations in feet above mean sea level

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada.

Digital base at the scale of 1:250 000 from data compiled by Geomatics Canada, modified by ESS-Inf.

Due to the difference between the geological mapping scale and the available digital topographic scale, some inaccuracies between geological units and topographic features may be observed; symbols are based on 1:250 000 topographic data and may be inconsistent with polygon map units. In such cases, the geological units should be considered accurately georeferenced.

Proximity to the North Magnetic Pole causes the magnetic compass to be erratic in this area. Mean magnetic declination 2003, 9°35'W, decreasing 4.0' annually. Readings vary from 7°24'W in the SW corner to 12°21'W in the NE corner of the map.

Elevations in feet above mean sea level

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Figure 1. Interpreted relative ice-movement chronology within NTS 56K. Timing associations are approximate; LHM represents Last Glacial Maximum. Modified after McMartin et al., 2003 and Little et al., 2003.

PHASE I: Northward (possible LGM)

PHASE II: North-southward (only depicted)

PHASE III: North-southward (only depicted)

Interstratified tillifers

Moraine ridges

Recommended citation:
Little, E.C. and Feilley, T., 2003. Surficial geology, Laugland Lake South, Nunavut. Geological Survey of Canada, Open File 4278, scale 1:100 000.