

**CEANOZOIC (Hodgson, 1993)**

**HOLOCENE**

- Hf** FLUVIAL DEPOSITS: Gravel and silt sand. Up to 10 m thick. Channel, floodplain, dells and terrace deposits.
- Hb** RAISED BEACH DEPOSITS: Bouldery to silty sand over fill and rubble to silty gravel over rock single ridges. A few centimetres to several metres thick.

**PLEISTOCENE**

- Pw** GLACIOMARINE DEPOSITS: Silt or fine sand, massive to finely laminated with scattered dolostones; commonly pitted. Up to 20 m thick. Deposition adjacent to major glacial meltwater outlets.
- Pt3** HADLEY BAY READVANCE TILL: Stony loam locally incorporating ice thrust layers of silty marine sediments. Numerous fowlskalds and prominent frost-furrow troughs. Up to 2 m thick.
- Pt2** VICTORIA ISLAND TILL: Stony loam; commonly seen as inclusions on air photos, some beds of sparse chert. Includes all veneer from thin to mask underlying bedrock. Up to 10 m thick. Deposition by continental glacier, possibly late Wisconsinan maximum.

----- unconformity -----

**NEOPROTEROZOIC**

Franklin igneous events 723 Ma (Heaman et al., 1992)

- Nfg** GABRO SILLS: Differentiation sequence in alkali-olivine-chromite cumulates, plagioclase-olivine cumulates, plagioclase-olivine-chromite cumulates, plagioclase-chromite-cumulates, plagioclase-chromite-cumulates, and granophyre.

----- intrusive contact -----

**SHALER SUPERGROUP (Rainbird et al., 1994)**

- Nw** WINNIATT FORMATION: In NW Inlet divide into 3 members (ascending stratigraphic order). **Nw1**: interbedded dolomite and dolomite with desiccation cracks. An overlying unit contains metre-scale cycles consisting of rhythmically laminated dolomite overlain by silty dolomite, interstratified breccia and stromatolitic dolomite. **Nw2**: thin- to thick-laminated black, rusty-weathering muscovite-bearing dolomite with minor quartzite and dolomite interbeds at top. Desiccation cracks near top and base. **Nw3**: covering lowermost cross-bedded dolomite with stromatolitic dolomite and dolomite interbeds at top. Dolomite members: Grey to buff grey laminated to thin bedded to massive dolomite and fine dolomite. Hummocky cross-bedding and laterally linked stromatolites are common in lower member. **Nw1** - undifferentiated Minto Inlet Formation.
- Ni** REYNOLDS POINT GROUP
- Nj** HADLEY BAY FORMATION: Interbedded cross-bedded quartzite, parallel laminated and mudcracked dolomite and dolomite. Distinctive, yellow-weathering stromatolite dolomite composed of both laterally linked and digital forms with abundant inter-columnar quartz occurs within 10 m of base of formation.
- Nf** FORT COLLINSON FORMATION: Medium-bedded, fine- to medium-grained quartzite, plagioclase, quartzite and dolomite. Distinctive, yellow-weathering stromatolite dolomite composed of both laterally linked and digital forms with abundant inter-columnar quartz occurs within 10 m of base of formation.
- Nb** BOOT INLET FORMATION: Cyclically alternating dolomite and quartzite. Stromatolitic dolomite and dolomite rhythmites (see Moir and Rainbird, 1993). Distal quartz more abundant toward top.
- Ngb** GRASSY BAY FORMATION: Basal mudstone unit with thickness increasing westward. Coarser silty upward to medium-grained, planar tabular cross-bedded quartzite. Upper part of formation includes sporadic erosional unconformity overlain by finely upward successions of hummocky cross-bedded quartzite, parallel-bedded dolomite and parallel-laminated dolomite. Top of formation is defined by carbonate > 50%.
- Na** RAE GROUP
- Na** AOK FORMATION: Cream to orange brown-weathering dolomite to dolomite dolomite composed of upright to leaning digital columns (elongate in plan) stromatolites. In some areas formation comprises two dolomites of similar thickness separated by very laminated dolomite and dolomite.
- Nnh** NELSON HEAD FORMATION: Base of formation is thinly laminated black carbonaceous and pyritic mudstone, locally in paleodolomites; grades up into thick laminated red dolomite and fine-grained ripple cross-laminated quartzite. Middle two-thirds of formation is fine- to medium-grained, white to light grey quartzite with small to moderate scale, planar tabular cross-bedding. Interstratification of ripple cross-bedded very fine-grained quartzite and parallel bedded dolomite are less than 1 m thick. Finely disseminated pyrite and chert in sections along Hadley Bay coast (see Rainbird et al., 1992 and GSC Open File 2781). Uppermost part of formation is parallel to planar hummocky cross-bedded fine-grained pink to green glauconitic quartzite interbedded with wavy- to lenticular-bedded very fine sandstone and parallel laminated green siltstone.

Geological boundary (defined, approximate) .....  
 Rock drumlin .....  
 Glacial striae .....  
 Stromatolite mound elongation .....  
 Lineament (from air photo) .....  
 Bedding, top known (horizontal, inclined) .....  
 Fault (defined, inferred), dip on downthrow side .....  
 Anticline (defined, approximate) .....  
 Syncline (defined, approximate) .....

**REFERENCES**

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Rainbird, R. H., Dorsch, W., Jefferson, C. W., Lusk, R., Rees, M., Taylor, K., and Jones, T., 1992: Proterozoic stratigraphy and sedimentology of the Glenlyon Formation, lower Shaler Group and correlatives in the Amundsen Basin, Northwest Territories: relevance to sediment-hosted copper. *Current Research, Part C (Geological Survey of Canada, Paper 92-1C)*, p. 111-119.

Rainbird, R. H., Jefferson, C. W., Hobbins, R. S., and Worth, L. K., 1994: The Shaler Supergroup and revision of Neoproterozoic stratigraphy in the Amundsen Basin, Northwest Territories. *Current Research, Part A (Geological Survey of Canada, Paper 94-1A)*, p. 61-70.

Other Colour Open File maps in this series

Rainbird, R. H., Hodgson, D. A., Dorsch, W., and Lusk, R., 1994: Bedrock and surficial geology of northwest Minto Inlet, Victoria Island, NTS 7807. Geological Survey of Canada Open File 2781, Scale 1:50 000.

Rainbird, R. H., Hodgson, D. A., and Jefferson, C. W., 1994: Bedrock and surficial geology, Weathering Islands, District of Franklin, Northwest Territories, NTS 7805. Geological Survey of Canada Open File 2000, Scale 1:50 000.

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Rainbird, R. H., Hodgson, D. A., and Jefferson, C. W., 1995: Bedrock and surficial geology, Kitan Lake, District of Franklin, Northwest Territories, NTS 7804. Geological Survey of Canada Open File 3111, Scale 1:50 000.

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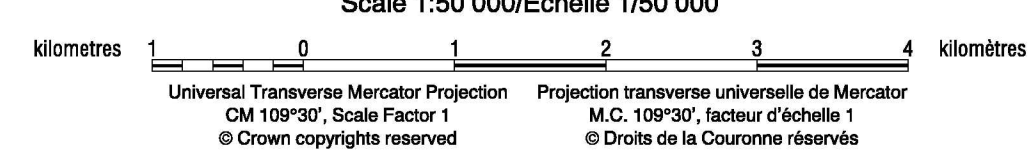
Bedrock geology compiled by R.H. Rainbird; surficial geology by D.A. Hodgson. Logistical support provided by the Polar Continental Shelf Project and its operators.

Electrostatic plot produced by the Geoscience Information Division.

Digital cartography by J.D. Naraway, Geoscience Information Division.

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

OPEN FILE 3450  
**BEDROCK AND SURFICIAL GEOLOGY**  
**YOUNG INLET**  
 DISTRICT OF FRANKLIN  
 NORTHWEST TERRITORIES  
 Scale 1:50 000/Echelle 1/50 000



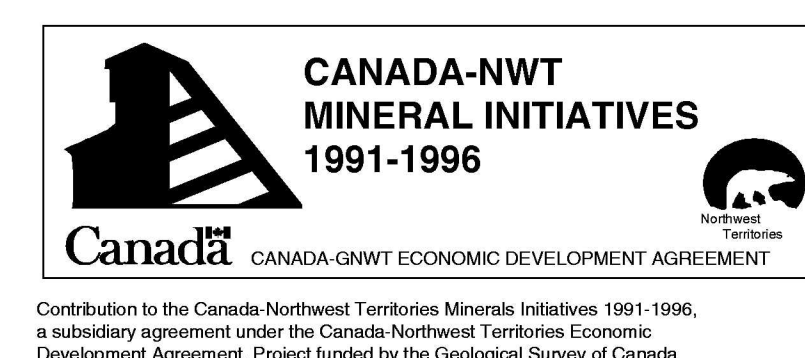
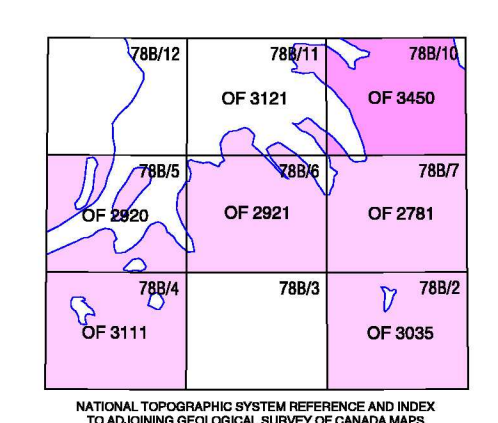
Digital base map from data compiled by Geomatics Canada, Natural Resources Canada and modified by the Geoscience Information Division.

Copies of the topographical editions covering this map area may be obtained from the Canada Map Office, Natural Resources Canada, Ottawa, K1A 0G9.

Mean magnetic declination 1997, 35°06' E, decreasing 48.9' annually. Readings vary from 33°51' E in the SE corner to 36°18' E in the NW corner of the map.

Elevations in feet above mean sea level.

Geographical names subject to revision.



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**3450**  
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 COMMISSION GÉOLOGIQUE DU CANADA  
 OTTAWA  
 04/1997

Recommended citation:  
 Rainbird, R.H., Jefferson, C.W., and Hodgson, D.A., 1997: Bedrock and surficial geology, Young Inlet, District of Franklin, Northwest Territories (78010). Geological Survey of Canada, Open File 3450, scale 1:50 000.