



DESCRIPTIVE NOTES

The area is accessible by sea from mid-July to mid-October and landings by ski-equipped aircraft are possible between January and early June. Float-equipped aircraft can be used from early July to late September. There are no permanent settlements in the area; in 1955 the only occupied Eskimo camp was at the southwest entrance of Aberdeen Bay. Cape Dorset, some 100 miles to the west of the map-area, is the trading and administrative centre for the region and is equipped with a private-commercial radio station operated by Hudson's Bay Company.

The area is part of the Baffin Upland. Although many of the innumerable islets that form an archipelago extending both east and west of the area are low, the larger ones have a relief in excess of 600 feet. Elevations are similar in the coastal areas of the mainland and about 20 miles from the coast they exceed 1,000 feet. The surface presents a flat, monotonous skyline and forms part of a peneplain that extends northeasterly with gradually increasing elevations. The islands of the archipelago and the coastal belt have bare rock slopes with little soil cover except in hollows, but inland a cover of glacial drift predominates.

Numerous inlets extend far inland so that tide-water reaches many parts of the map-area. As a strong current is set up throughout the archipelago, caution must be exercised when using boats or canoes in these waters.

Widespread glaciation is suggested by the rounded form of many of the hills, the presence of perched boulders, and extensive drift-covered inland areas. The glacial striations observed suggest movement from the northeast. Raised beaches were seen as high as 450 feet above present sea-level and marine shells were found as high as 200 feet. Most of the islands of the archipelago and the adjacent coastal belt are formed from rocks of unit 1. In places in this assemblage and apparently conformable with it, are narrow bands of crystalline limestone (3) and garnet-bearing gneiss (4). The diversity of rocks present in unit 1 precludes their delineation on this map but here and there four types have been recognized. The unit includes many rocks that appear to be derived from sedimentary strata. Migmatite, hybrid gneiss, granoblastic quartz-feldspar gneiss (granulite) etc., are grouped together in this assemblage. Unit 1a includes massive pink or grey granitic rocks that have no well-defined contact with adjacent gneissic rocks and in part may be younger than any other rocks in the area. Throughout much of the gneissic terrain there are lenses, bands, and schlieren of hornblende gneiss or amphibolite, which together with the granitic rocks, form a definite assemblage (1b). These mafic rocks are commonly contorted and discontinuous. Here and there banded biotite gneiss and quartz-feldspar gneiss (1c) form a distinct unit, but in much of the terrain underlain by unit 1 banding is not obvious, and yellowish brown or greenish granitic quartz-feldspar gneiss (1d) predominates. All these rocks are cut by dykes, veinlets, and discontinuous lenses of quartz-feldspar pegmatite; in the granitic rocks the pegmatitic material may form as boudins on the foliation planes of the gneiss.

In places outcrops of quartz-feldspar-hornblende gneiss and amphibolite are extensive enough to permit mapping as a separate unit (2), but this unit only differs from 1b in the relative proportions of granitic and mafic rocks present. Although, as noted above, bands of crystalline limestone (3) are found here and there within unit 1, the bulk of this rock-type is confined to a northwest-trending belt roughly 2 miles wide, outcropping inland from the coast. Large masses of pale-green diopside, and lesser amounts of biotite, phlogopite, sphene, and other associated minerals are also found in the carbonate zone. Included with the crystalline limestone is quartzite, rusty garnet-graphite-biotite schist (5), granite gneiss (1), and garnet gneiss (4). In detail, lithology and structure of this unit are complex.

North of the main crystalline limestone band are outcrops of garnet-quartz-feldspar gneiss that contains variable amounts of biotite (4). Interbedded with these rocks and forming a well-defined northwest-trending belt within them is a zone of rusty-weathering graphitic schist (5).

A northwest-trending gabbro dyke cuts all other rocks. Here and there the dyke anastomoses, giving rise to a zone of dyketts, but in general it maintains a constant width of about 200 feet as it traverses the region. A second and parallel-trending dyke is present some 12 miles to the northwest. This dyke was only seen at the north end of Stevenson Lake but it is known to outcrop along the shores of Keltie Inlet north of the map-area.

The predominant structural trend is to the northwest but in the southern part of the area fold axes trend to the northeast. Attitudes are generally moderate but near-vertical dips prevail across relatively large areas, as for example east and west of Boas Lake and east of White Bear Bay. Metamorphism has obscured the stratigraphic record in this map-area and few marker beds can be traced for more than a mile or two; for this reason the structural trends shown on the map are in part diagrammatic.

Concentrations of magnetite are found in biotite-quartz-feldspar gneiss (1c), and in quartz-feldspar-hornblende gneiss and amphibolite (2). The most extensive of these concentrations is in a band extending in a sinuous course from near Amadjuak Bay to beyond Keltie Inlet. Within this band the concentration of magnetite varies widely. Magnetite forms as disseminated grains, and also in bands of coarse-grained magnetite 1 foot to 15 feet thick. Bands of magnetite-bearing garnet-amphibolite become more and more abundant in granitic gneiss as the main zone is approached. Although the band maintains a fairly constant width of about 400 feet for most of its length, it is in part broken by patches of granitic gneiss and massive granitic rocks (1a). Similar magnetite occurrences are found throughout that part of the map-area underlain by unit 1. Many of these are rich in disseminated magnetite but bands of nearly pure magnetite are rare; elsewhere, for example on the south coast of Diamond Island or on the east coast of Hobart Island, are occurrences similar to that of the main band. Many of these occurrences were staked in 1956 and 1957 and further exploratory work was carried out in 1958 by Ultra-Shawkey Mines Limited, but the camp was closed in the spring of 1959.

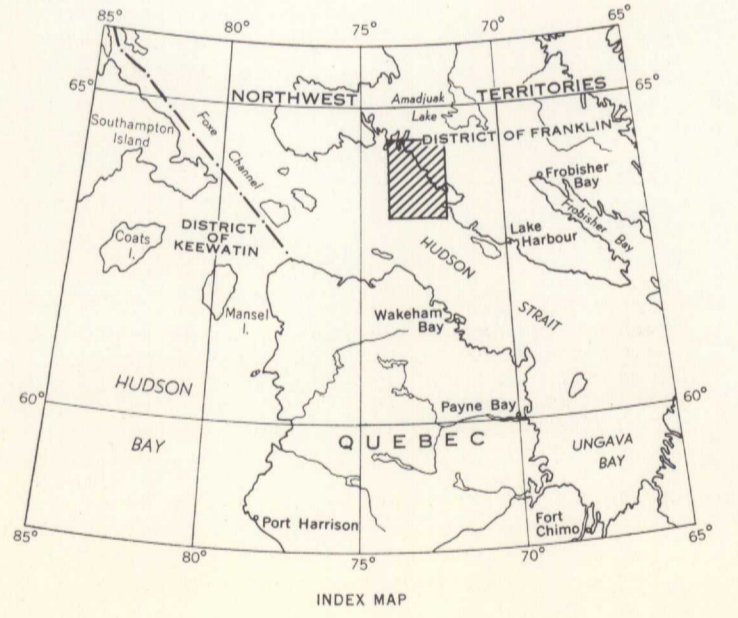
- LEGEND
- 6 Gabbro
 - 4/5/4 4. Rusty graphite-garnet-biotite schist and gneiss
 - 5. Garnet-biotite gneiss
 - 3 Crystalline limestone, quartzite
 - 2 Quartz-feldspar-hornblende gneiss, amphibolite
 - 1 Granitoid gneiss, hybrid gneiss, migmatite, granoblastic textured gneiss; 1a, granitic rocks, in part gneissic; may include some rocks younger than units 1b-5; 1b, granite-gneiss with bands and lenses of quartz-feldspar-hornblende gneiss or amphibolite; 1c, granite-gneiss and biotite gneiss; 1d, quartz-feldspar gneiss, granoblastic texture, in part pyroxene bearing

- N.B. Stratigraphic sequence is not implied except that unit 6 is younger than all other rocks
- Geological boundary (assumed)
 - Limit of geological mapping U
 - Unmapped area U
 - Foliation (inclined, vertical, dip unknown)
 - Trend lines (in part from air photographs)
 - Magnetite occurrence
 - Anticline
 - Syncline
 - Glacial striae (direction of ice-movement known, unknown)
 - Raised beach (elevation in feet) 8320

Geology by R. G. Blackadar, 1958, 1959
Cartography by the Geological Survey of Canada, 1960
Approximate magnetic declination, 41°46' West

Air photographs covering this area may be obtained through the National Air Photographic Library, Topographical Survey, Ottawa, Ontario

In response to public demand for earlier publication, Preliminary Series maps are now being issued in this simplified form, thereby effecting a substantial saving in time. There is no loss of information, but the maps will be clearer to read if all or some of the map-units are hand-coloured.



HUDSON STRAIT

MAP 55-1959
GEOLOGY
HOBART ISLAND
BAFFIN ISLAND
DISTRICT OF FRANKLIN
NORTHWEST TERRITORIES

Scale: One Inch to Four Miles = 1/253,440 Miles

G
3410
C5
1956
G2
omv sc

85-1959
C.R.

MAP 55-1959
HOBART ISLAND
NORTHWEST TERRITORIES
SHEETS 35 P AND 36 A (PARTS OF)