

DESCRIPTIVE NOTES

In a normal year this area is accessible by sea from early July to late October. Landings by float-equipped aircraft are possible between early July and late September, either on the numerous lakes or on the sea; ski-equipped aircraft can be used between December and June.

Cape Dorset, the only settlement in the map-area, is the trading centre for about 300 Eskimos. In addition to the Hudson's Bay Company post the settlement includes a federal day school, nursing station, northern service officer, Roman Catholic mission, and a large Anglican church served by the missionary stationed at Lake Harbour some 300 miles to the east. The Hudson's Bay Company operate a private-commercial radio service and can be reached through the Department of Transport at Frobisher Bay.

The Cape Dorset area is part of the Baffin Upland and elevations in excess of 1,000 feet are known. In general the coast regions are relatively low and the land rises gradually from southeast to northwest. However, Dorset and Mallik Islands are rugged and 'Kingnit', a hill just west of Dorset settlement, is more than 800 feet high. Below a line that varies between 400 and 600 feet in elevation, outcrops are smooth and free from erratic boulders; but above this imaginary line perched boulders are common and in the northwest corner of the map-area large tracts are covered by glacial drift. The drainage system is typical of Precambrian terrains; numerous lakes are joined by short, rapid streams. These streams flow southeasterly and parallel to the prevailing structural trend.

The rounded hills, perched boulders, and extensive drift-covered areas suggest widespread glaciation, but definite striae are rare. Raised beaches were observed as high as 550 feet above present sea-level although most are between 200 and 250 feet above sea-level. Marine shells were collected from deposits as high as 240 feet.

A broad division into meta-sedimentary and granitic rocks can be made. In many cases, however, no clear contact can be drawn between the two. For example, west of Pudla Inlet and northwest of Alareak Island, quartzitic rocks gradually become more feldspathic and grade into granitic gneiss. Large areas mapped as granitic gneiss (1) are probably derived from sedimentary rocks. This view is supported by the occurrence, in the western part of the map-area, of isolated bands of marble or rusty gneiss with attitudes that conform to the foliation of the gneisses.

The granitic gneisses (1) vary from pink or grey quartz-feldspar gneisses with minor amounts of biotite and hornblende, to hybrid gneisses and migmatites in which bands of light-coloured granitic material alternate with biotite or hornblende gneisses. Here and there garnet is found associated with the mafic gneisses. Schlieren of biotite or hornblende gneiss are common in the light-coloured gneisses and veins and dykes of quartz-feldspar pegmatite are locally abundant.

The stratigraphic record in the Cape Dorset area is barely legible, due to metamorphism, intrusion, and structural complications. The quartzite (3a) west of Pudla Inlet appears to be the oldest unit of the meta-sedimentary rocks. It varies from a massive white rock to one rich in biotite and very rusty and schistose. As noted above, in many places it grades imperceptibly into granitic gneiss. The extensive band of meta-sedimentary rocks northwest of Alareak Island includes quartzitic rocks containing abundant hornblende, biotite, and tremolite. Up to 10% magnetite is present in some thin sections examined. These rocks are probably derived from impure sandstone. The relationship of the quartzite west of Pudla Inlet to that northwest of Alareak Island is not known; they may be different bands or they may be the same band repeated by folding and faulting.

Marble (3b) and rusty schists and gneisses (3a) are commonly associated. The marble is generally white, but grey and orange bands are also found. Included in unit 3c are rusty graphite schists, sillimanite schists, and rusty hornblende-biotite schists and gneisses. The latter contain up to 60% mafic minerals. Within a band of marble or rusty gneiss, as mapped, narrow bands and lenses of the other rock type are common. The marble is highly contorted and many of the bands, both of marble and rusty gneiss or schist, tend to pinch out along strike. In the vicinity of 'Tessikakjuak' bands of amphibolite and biotite gneiss (2) are interbedded with lesser amounts of granitic gneiss. Except for a few bands of biotite schist this unit is not rusty.

Major fold axes trending northwest dominate the structural pattern of the area. Although no faults are shown on the map, there is abundant evidence that the area has been faulted as well as folded. The high, east-facing scarps on Dorset and Mallik Islands are probably fault-line scarps and similar features are found throughout the area. The outcrop pattern of the marble and rusty gneiss units may be due to faulting as well as folding, and repetition of beds is suspected in several places. From the southwest to the northeast the following broad structures are suggested. A broad anticline in the granitic gneisses south of 'Tessikakjuak' is succeeded by a narrow syncline in which bands of rusty gneiss predominate. This is followed by an anticline in the granitic gneisses and then by what appears to be a westerly plunging, overturned syncline comprising most of unit 2. North of Tellik Bay the marble and rusty gneiss and schist bands seem to form a broad anticline within which is at least one minor syncline. Several anticlines and synclines are present in the granitic gneisses and quartzites west of Pudla Inlet, and to the north of the quartzite, a band of rusty gneiss outcrops in a broad syncline. The meta-sedimentary bands northwest of Alareak Island may be part of an easterly plunging syncline overturned to the north. The relationships of the most northeasterly of the meta-sedimentary bands to those in the remainder of the area are not known, but additional northwest-trending marble and rusty schist bands are known to outcrop northeast of the map-area and these may be assumed to be a part of a similar sequence of anticlines and synclines.

Claims were staked in 1956 and 1957 in the Cape Dorset area, mainly on scattered magnetite and pyrite showings. These are filed with the Mining and Lands Division, Department of Northern Affairs and National Resources, Ottawa.

- LEGEND
- 3 Meta-sedimentary rocks; 3a, quartzite, micaceous quartzite; 3b, marble; 3c, rusty schist and gneiss, biotite gneiss, sillimanite gneiss
 - 2 Amphibolite, biotite gneiss
 - 1 Granitic gneiss, hybrid gneiss, migmatite; may include some intrusive granitic rocks younger than 3

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.

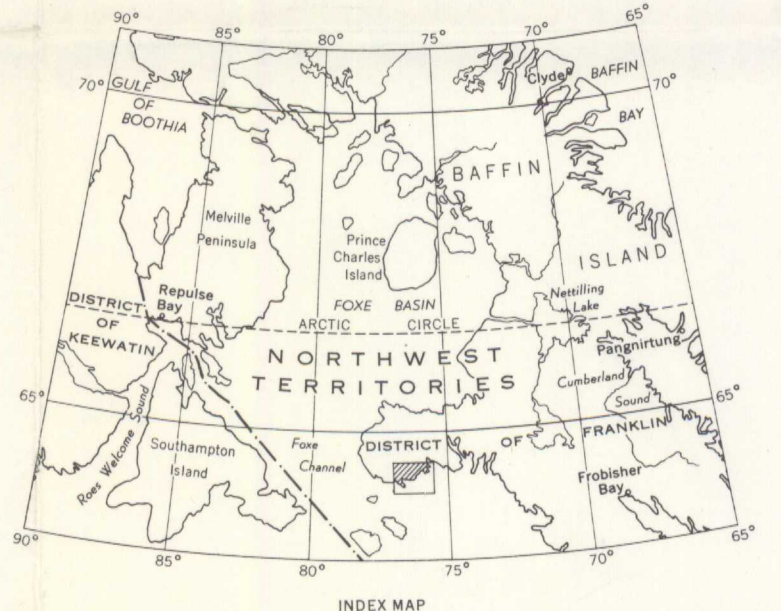
- Geological boundary (approximate, assumed)
- Limit of geological mapping
- Bedding (inclined, vertical)
- Foliation (inclined, vertical, dip unknown)
- Glacial striae (direction of ice movement unknown)
- Raised beach (elevation in feet) 280 Ⓞ
- Marine shell locality (elevation in feet) 240 Ⓞ

Geology by R.G. Blackadar, 1958

- Settlement
- Tidal flat

Cartography by the Geological Survey of Canada, 1959

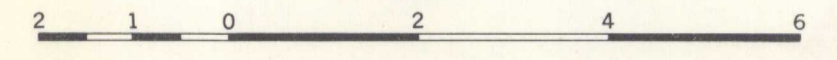
Geographical names subject to revision



HUDSON STRAIT

MAP 11-1959
GEOLOGY
CAPE DORSET
BAFFIN ISLAND
DISTRICT OF FRANKLIN
NORTHWEST TERRITORIES

Scale: One Inch to Two Miles = $\frac{1}{126,720}$ Miles



PUBLISHED, 1959
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DIRECTOR, GEOLOGICAL SURVEY OF CANADA, OTTAWA

PRINTED BY THE SURVEYS AND MAPPING BRANCH

MAP 11-1959
CAPE DORSET
NORTHWEST TERRITORIES
SHEET 36 B AND C (PARTS OF)

5.1.5
A. Geol. Cape Dorset, NWT.

11-1959

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