GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF MINES AND TECHNICAL SURVEYS

PRELIMINARY SERIES

SHEET 36B AND 36G (South Half)

LEGEND

CENOZOIC

- 9 Drift

PRECAMBRIAN

- 8 Gabbro
- 7 Volcanic rocks, mainly massive biotite-hornblende rocks; some breccia
- 6 Biotite gneiss, migmatitic in part
- 5 Graphite-biotite schist and gneiss
- 4 Crystalline limestone
- 3 Hornblende gneiss
- 2 Garnet-biotite gneiss, schistose in part; 2a, massive garnet-biotite rock
- 1 Quartz-feldspar gneiss; 1a, granitoid gneiss; 1b, granofels; 1c, granofels with abundant lenses and/or bands of biotite-hornblende gneiss; 1d, lit-par-lit gneiss; 1e, quartzite

Note: Stratigraphic sequence not implied except for units 8 and 9

- Geological boundary (approximate, assumed)
- Limit of geological mapping, unmapped area
- Foliation (horizontal, inclined, dip unknown)
- Trend lines (in part from air photographs)
- Magnetite occurrence (extensive, limited) — mag
- Anticline
- Syncline
- Glacial striae (direction of ice-movement known, unknown)
- Raised Beach (B)
- Marine Shell deposit (S)

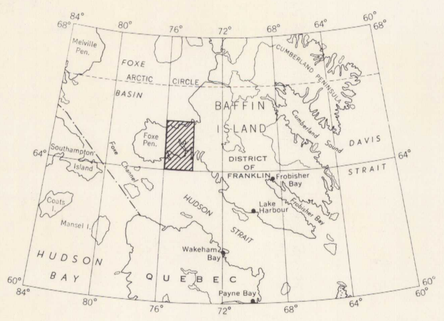
Geology by R. G. Blackadar, 1961

- Cabin (emergency shelter)
- Braided stream
- Reversing rapids (tidal) — R.R.
- Tidal flat
- Cliff
- Marsh
- Height in feet above mean sea-level — 455

Cartography by the Geological Survey of Canada, 1962

Geographical names subject to revision

Mean magnetic declination, 47° 09' East, decreasing 13.3' annually. Readings vary from 44° 41'E in the SW corner to 49° 44'E in the NE corner of the map-area



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DESCRIPTIVE NOTES

The area is accessible by float- or ski-equipped aircraft, except during break-up (a few weeks in June) and during freeze-up (generally from late September to late November). Tidal inlets and small lakes are free from ice in late June or early July but most larger, deeper lakes contain floating ice until late July. Ships can approach the coastal areas from mid-July to late October.

Although there are no settlements in the area, Cape Dorset, the largest settlement in southern Baffin Island, is only 35 miles to the west. Facilities available there include a private commercial radio station (4837 kc/s) operated by the Hudson's Bay Company, two retail stores, a nursing station, school, Anglican mission, and administrative offices of the Department of Northern Affairs and National Resources.

Parts of two main physiographic divisions—the Baffin or Frobisher Uplands and the Foxe Basin Lowlands—lie within the area; Andrew Gordon Bay map-area lies mainly within the former. From the south coast of the area the elevation of the land increases until the concordant surface of the uplands, some 300-400 feet above sea-level, is reached. This surface, although from a distance presenting a smooth appearance, is rugged in detail. North of lat. 64° 50' the plateau surface merges gradually with the drift-covered lowland surface bordering Foxe Basin. This is an area of many large but very shallow, boulder-studded lakes, and includes most of Cory Bay map-area. In the northeastern part of this map-area, granitoid gneiss is exposed in a north-facing slope that trends southwest and rises to about 100 feet above sea-level. Southeast of this the lowland is covered with drift. In winter these exposures are the only recognizable feature in an otherwise featureless terrain and are a valuable aid to aircraft navigation. South of the scarp, drift again masks the bedrock.

Evidence for widespread glaciation is seen in striated surfaces, perched boulders, moraines, and extensive drift. Raised beaches and marine shell deposits are here and there well preserved.

The predominant rocks are some form or another of a quartz-feldspar gneiss complex (1). Five subdivisions have been made but, as all are gradational, no contacts are shown on the map. Unit 1c is an assemblage of granitoid gneiss and biotite granitoid gneiss. Unit 1b, the most abundant rock type in the area, is a granulite—a quartz-feldspar granular-textured gneiss with minor amounts of biotite and hornblende. Unit 1c is granulite with schlieren and bands of mafic schistose rock. In many places the granulite shows evidence of mobility and the mafic bands have been broken into small lenses that now show diverse orientations within a small area. Unit 1d includes lit-par-lit gneisses wherein a quartz-feldspar rock has been intruded into a sequence of more mafic schists and gneisses. The width of individual bands varies from an inch or less to several feet. Unit 1e includes quartzite and partly feldspathized rocks transitional between quartzite and granulite.

Northwest-trending bands of garnetiferous biotite gneiss (2) are present and reflect the dominant structural trend. The northernmost of these is continuous with similar rocks shown on GSC map 43-1960. Here and there these rocks are schistose and contain layers of rusty graphite-rich schist (5); elsewhere foliation is absent and the rocks present a massive, granulitic appearance (2a). These rocks grade into the other units and contacts are difficult to recognize.

Map-unit 3 includes hornblende-rich mafic rocks, mainly well foliated. Most carry magnetite, and west of Chorkbak Inlet two small synclines contain a considerable amount (see below).

Crystalline-limestone bands are found in various parts of the region but are most common around Andrew Gordon Bay. Only a few are shown on the map, as many are less than one foot wide and many are discontinuous. Although most commonly associated with rusty graphite-bearing rocks or schistose garnetiferous rocks, marble bands are also interbedded with quartz-feldspar gneiss. Accessory minerals in this unit include diopside, graphite, muscovite, phlogopite, and magnetite.

A biotite-rich gneiss cut by irregular masses of quartzo-feldspathic rock (6) probably grades into unit 1d.

The West Foxe Islands comprise an assemblage of dark, well-cleaved, biotite-hornblende rocks (7) cut by veins and dykes of pinkish quartz-feldspar pegmatite. Breccia and possible pillow structures suggest that these rocks may be volcanic in origin. Calcite veins are common along the cleavage surfaces.

Several northwest-trending gabbro dykes (8) cut all other strata in the southeastern part of the area. These are about 100 feet wide and dip vertically or steeply south. Here and there, small parallel dykelets are present. Contact effects are limited to a chilled margin and a slightly-coarser-grained centre.

Dykes, veinlets, and irregular masses of quartz-feldspar pegmatite cut all units except the gabbro dykes.

Although locally complex, the map-area is dominated by northwest-trending structures within which are roughly circular dome and basin structures. More intricate folding appears to characterize those areas underlain by units 2-5, whereas unit 1 shows more open folding.

Deposits of magnetite are present west of Chorkbak Inlet. Two of these are in basins of hornblende gneiss and associated rocks. Locally, magnetite may be massive, but more commonly it is associated with garnetiferous hornblende rock. Magnetite layers occur in garnetiferous rocks east of 'Shawkey Lake' and in the quartz-feldspar gneiss succession northwest of the lake. These deposits were staked in 1956 and 1957, mainly by Ultra Shawkey Mines Ltd.; in September 1957 a company report stated that 350 million tons of ore had been outlined. However, following the 1958 field season, exploratory work was discontinued, and by 1961 all buildings and equipment had been removed from the campsite. In addition to these main showings, smaller concentrations of magnetite were noted by the writer in other places. These are mostly associated with lenses or bands of hornblende gneiss or garnetiferous biotite gneiss, and none is of any extent.

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MAP 5-1962
GEOLOGY

ANDREW GORDON BAY-CORY BAY

BAFFIN ISLAND
DISTRICT OF FRANKLIN

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

4 2 0 4 8 12 Miles

MAP 5-1962
ANDREW GORDON BAY-CORY BAY
BAFFIN ISLAND
DISTRICT OF FRANKLIN