

GENERAL GEOLOGY

The Foxe and Committee Fold Belts extend in an east-northeast direction from southern Melville Peninsula to central Barren Island. They are composed of granitoid gneissic rocks...

date of about 2700 Ma (R.K. Manless, personal communication, 1977). Deformation of the basement complex and the Penrhyn Group may have taken place 2150 Ma ago...

REFERENCES

- Campbell, F.H.A., 1973. Sedimentary Rocks of the Prince Albert Group, District of Keewatin, Geological Survey of Canada, Paper 73-1A, pp. 141-152.
1974. Paragneisses of the Prince Albert Group. Geological Survey of Canada, Paper 74-1A, pp. 159-160.

Amongst the gneissic rocks of the complex are presumed to be some that form the basement to the Prince Albert Group but unconformable relations, if present are masked by deformation and plutonic activity...

The Penrhyn Group consists of paragneisses (Aan, Aam) and marble (Am) with some quartzite (Aab) and calcareous silicate gneiss (Aarc). Minor orthoquartzite (Aaq), amphibolite (Aap) and very minor iron formation (Aaif) are also present...

At the highest observed structural and metamorphic levels is a unit of quartz-biotite and/or muscovite psammite and metapsammite. This unit is variable in gross lithology and variably interbedded and compositionally gradational with paragneiss...

1975a. Volcanic Rocks of the Prince Albert Group, Melville Peninsula (A7-B), District of Franklin, Geological Survey of Canada, Paper 75-1A, pp. 159-161.

1975b. Gneiss Distributions in the Hayes River Region, Keewatin and Geological Parameters, Geological Survey of Canada, Paper 75-1B, pp. 89-96.

1975c. Gneiss Distributions in the Hayes River Region, Keewatin and Geological Parameters, Geological Survey of Canada, Paper 75-1B, pp. 89-96.

MAP-AREA 46 0/15 IS UNDERLAIN CHIEFLY BY THE BASEMENT COMPLEX. THE PENRHYN GROUP IS EXPOSED ONLY IN THE SOUTHEAST AND NORTHWEST CORNERS AND MUCH OF THE NORTHWEST QUARTER IS BURIED BENEATH RECENT ALLUVIAL AND MARINE DEPOSITS...

POLYPHASE STRUCTURES INDICATING NUMEROUS EPISODES OF DEFORMATION OF THE BASEMENT COMPLEX, THE PRINCE ALBERT GROUP AND THE PENRHYN GROUP EXIST THROUGHOUT THE TWO FOLD BELTS BUT UNEQUIVOCAL SEQUENTIAL RELATIONSHIPS AMONG THEM ARE RARE...

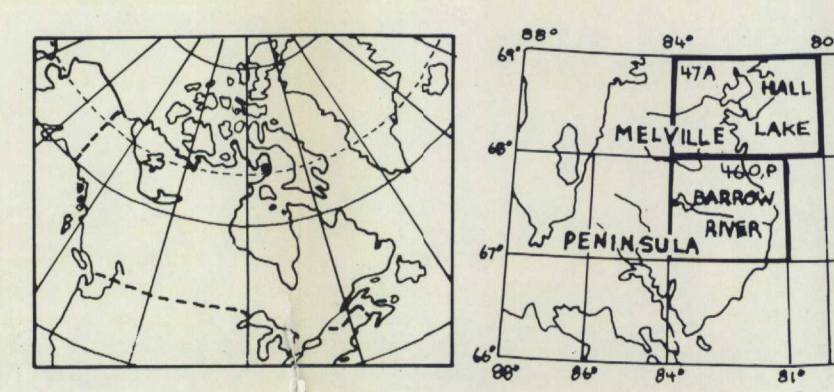
LATER EPISODES OF FOLDING PRODUCED PROMINENT Meso- AND MEGASCOPIC FOLDS THAT IMPROVE AN EAST-NORTHEAST STRUCTURAL GRAIN ON THE FOLD BELT. TIGHT TO NEARLY ISOCLINAL RECURRENT STRUCTURES ARE FOLDED BY LATER NEARLY COAXIAL, MORE OPEN, UPRIGHT TO OVERTURNED FOLDS...

IN NUMEROUS PLACES GNEISSIC BODIES OF THE BASEMENT COMPLEX CAN BE SEEN TO LIE ON AND POSSIBLY WITHIN THE PENRHYN GROUP. SUCH RELATIONSHIPS SUGGEST EITHER THE PRESENCE OF LARGE ALLOCHTHONOUS NAPES ON SMALLER SCALE, LOCALLY OVERTURNED FOLDS AND THRUST FAULTS...

METAMORPHISM IS BELIEVED TO HAVE ACCOMPANIED ALL PHASES OF DEFORMATION UP TO THE LATE NORTHEASTERLY TRENDS. IT POSSIBLY REACHED ITS ZENITH DURING THE PRECEDING NORTHEASTERLY-TRENDSING ISOCLINAL PHASE, BUT MINERAL RECRYSTALLIZATION OUTLASTED MUCH OF THE PENETRATIVE DEFORMATION...

MASSIVE AND FOLIATED PLUTONIC ROCKS (Ag, Ag2, Ag3, Ag4) CHIEFLY OF HORNBLende AND BIOTITE GRANODIORITE, QUARTZ HORNBLende AND GRANITE INTRUDE THE BASEMENT COMPLEX AND THE PENRHYN GROUP...

AVAILABLE RESULTS OF RADIOMETRIC ANALYSES INDICATE FORMATION OF THE BASEMENT COMPLEX PRIOR TO 2500 Ma AGO, WITH SOME EVENTS OCCURRING POSSIBLY AS LONG AS 2200 Ma AGO (R.K. Manless, personal communication, 1976). ACID VOLCANIC ROCKS OF THE PRINCE ALBERT GROUP ON THE WEST SIDE OF MELVILLE PENINSULA HAVE YIELDED A PRELIMINARY



LEGEND

Legend detailing geological units (Paleozoic, Proterozoic, Archean), unconformities, and structural features. Includes symbols for faults, bedding, and linear structures.

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Map metadata including scale (1:500,000), projection (Transverse Mercator), datum (North American Datum 1987), and contact information for the Geological Survey Commission.

LEGEND - LÉGENDE

Legend in French detailing geological units, unconformities, and structural features. Includes symbols for faults, bedding, and linear structures.

Map metadata in French including scale, projection, datum, and contact information for the Geological Survey Commission.