



LEGEND

SEDIMENTARY AND VOLCANIC ROCKS

- CENOZOIC**
- QUATERNARY**
- Q** Stream, deltaic, glacial and marine beach sediments (mapped only where underlying bedrock geology cannot be inferred with reasonable certainty)
- TERTIARY**
- Te** EUREKA SOUND FORMATION: sandstone and siltstone; minor shale, conglomerate and coal
- CRETACEOUS**
- UPPER CRETACEOUS**
- KANGUK GROUP**
- Kk1** KANGUK FORMATION: dark coloured shale; minor sandstone, siltstone and mudstone
STRAND FIORD FORMATION: basalt flows, agglomerate
BASTION RIDGE FORMATION: dark coloured shale; minor siltstone
- Kh** HASSEL FORMATION: sandstone; minor siltstone and shale
- LOWER CRETACEOUS**
- Kc** CHRISTOPHER FORMATION: dark coloured shale; minor sandstone, siltstone, mudstone and pyroclastic rocks
- Ki** ISACHSEN FORMATION: sandstone; minor shale, siltstone and, locally, basalt flows and pyroclastic rocks
- JURASSIC AND CRETACEOUS**
- UPPER JURASSIC AND LOWER CRETACEOUS**
- JKd** DEER BAY FORMATION: dark coloured shale; minor siltstone, sandstone and mudstone
- JURASSIC**
- UPPER JURASSIC**
- Ja** AWINGAK FORMATION: sandstone and siltstone; minor shale
- LOWER, MIDDLE AND UPPER JURASSIC**
- Js** SAVIK FORMATION: dark coloured shale; minor siltstone and sandstone
- TRIASIC**
- UPPER TRIASSIC**
- Rh** HEIBERG FORMATION: sandstone, siltstone; minor shale
- LOWER (?), MIDDLE AND UPPER TRIASSIC**
- Rba** BLAA MOUNTAIN FORMATION: dark coloured shale and siltstone; minor sandstone
- JURASSIC AND CRETACEOUS**
- LOWER JURASSIC AND LOWER CRETACEOUS**
- JK** SAVIK, AWINGAK and DEER BAY FORMATIONS (Undivided) see note 1

INTRUSIVE ROCKS

- TERTIARY**
- Col** OTTO FIORD FORMATION: anhydrite and gypsum; minor limestone and shale (see note 2)
- CRETACEOUS**
- Gabbro, diabase and basalt dykes (solid circle indicates downthrow side of fault intruded by dyke), see note 3

- Geological boundary (defined, approximate, assumed)
- Bedding (inclined)
- Bedding (from air photographs or observed from aircraft)
- Fault (defined, approximate; solid circle indicates downthrow side)
- Thrust fault (teeth indicate upthrust side)
- Anticline (defined, approximate; showing culmination and plunge of axis)
- Syncline (defined, approximate; showing culmination and plunge of axis)
- Fossil locality
- Measured section showing approximate line of traverse
- Boundary of Quaternary sediments
- Geological boundary, fold axis or fault, inferred beneath water, glacier or Quaternary sediments
- Type section (see note 4)

Geology by R. Thorsteinsson 1963 and E.T. Tozer 1961, 1962

Compilation by R. Thorsteinsson 1969, 1970

NOTES

- The Awingak Formation, traced northward from Strand Bay, changes significantly. The sandstone becomes finer grained, and its percentage present in the formation decreases while there is a corresponding increase in siltstone and shale. As a result the formation loses its topographic prominence and is difficult to map. For this reason, the Savik, Awingak and Deer Bay Formations have been mapped as one unit that bears the symbol JK in the territory north of Strand Bay.
- The Otto Fiord Formation crops out in normal stratigraphic successions in northwestern Ellesmere Island, where the formation has been dated as Late Carboniferous. Intrusive bodies of the Otto Fiord Formation are especially common on Axel Heiberg Island where they cut various formations including, in some instances, the Tertiary Eureka Sound Formation. The intrusions are generally related to faults and folds formed by Tertiary earth movements and are accordingly dated as Tertiary.
- Basic dykes and sills intrude upper Paleozoic and Mesozoic sediments of the Sverdrup Basin throughout much of Axel Heiberg Island and western Ellesmere Island. They intrude all formations older than, and including the Strand Fiord Formation, but have not been observed to intrude the Kanguk and Eureka Sound Formations. They are especially common in Mesozoic rocks that predate the Kanguk Formation, and while it is possible that more than one episode of intrusion is represented it is probable that the vast majority of dykes and sills are Cretaceous in age.

The larger and more conspicuous dykes are shown on the map but sills have not been mapped.

Sills are moderately common and generally thin (up to about 50 feet) in the Heiberg, Savik, Awingak, Deer Bay, Isachsen, Christopher and Hassel Formations that crop out south of Strand Fiord, and they are probably most prevalent in the Isachsen. Sills are common and generally thin in the Savik, Awingak, Deer Bay and Isachsen Formations exposed on the peninsula formed by South Fiord and Middle Fiord. Sills are more common and thicker in these formations north of Middle Fiord. North of East Fiord and Expedition Fiord the Blaa Mountain, Heiberg, Savik, Awingak, Deer Bay and Isachsen Formations, and to a lesser extent the Christopher Formation are extensively intruded by sills. It is interesting that outcrops of the Blaa Mountain Formation at Peewahto Point which represent the most westerly exposures of this formation in this region are apparently devoid of sills.

4. The map-area contains the type section of the Strand Fiord Formation.

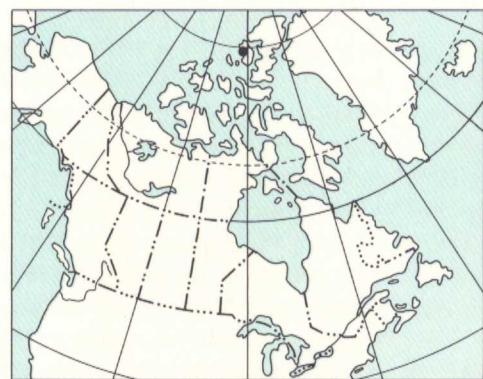
Geological cartography by the Institute of Sedimentary and Petroleum Geology, Geological Survey of Canada, 1971

- Horizontal control point
- Intermittent stream
- Lake, indefinite
- Contours (interval 500 feet)
- Dry river bed with channel
- Icefield, glacier
- Height in feet above mean sea-level 2250±

Topographic base-map at the same scale published by the Surveys and Mapping Branch in 1967, with revisions by the Institute of Sedimentary and Petroleum Geology, 1971

The daily change of the North Magnetic Pole causes the magnetic compass to be very erratic in this area

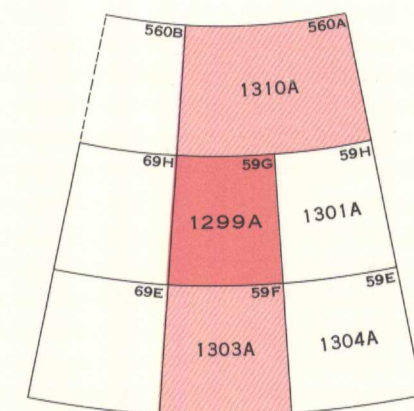
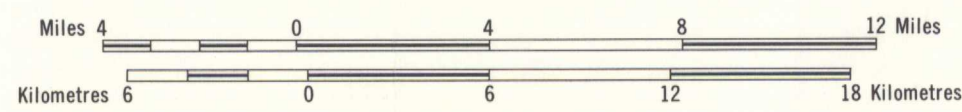
Published, 1971
Copies of this map may be obtained from the Geological Survey of Canada, Ottawa



Printed by the Surveys and Mapping Branch

MAP 1299A
GEOLOGY
MIDDLE FIORD
DISTRICT OF FRANKLIN

Scale 1:250,000



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1299A

MAP 1299A
MIDDLE FIORD
DISTRICT OF FRANKLIN

N.W.T. MIDDLE FIORD
1:250,000
MAP 1299A
1971

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