

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, siltstone, conglomerate, shale; minor coal (see note 3)
	CRETACEOUS	
	UPPER CRETACEOUS	
	Kk	KANGUK FORMATION: dark coloured shale, minor sandstone, siltstone and mudstone
	Kh	HASSEL FORMATION: sandstone, minor siltstone and shale
	LOWER CRETACEOUS	
	Kc	CHRISTOPHER FORMATION: dark coloured shale, minor siltstone, sandstone, mudstone and pyroclastic rocks
Ki	ISACHSEN FORMATION: sandstone, minor shale, siltstone and conglomerate	
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, siltstone, minor shale	
LOWER, MIDDLE AND UPPER JURASSIC		
Js	SAVIK FORMATION: dark coloured shale, minor siltstone and sandstone	
TRIASSIC		
UPPER TRIASSIC		
Rh	HEIBERG FORMATION: sandstone, siltstone; minor shale (see note 4)	
MIDDLE AND UPPER TRIASSIC		
Rba	BLAA MOUNTAIN FORMATION: dark coloured shale, siltstone, light grey calcareous siltstone; minor sandstone	
LOWER TRIASSIC		
Rbl	BLIND FIORD FORMATION: siltstone; minor shale and sandstone	
PERMIAN		
UPPER PERMIAN		
Ptt	TROLD FIORD FORMATION: green sandstone, minor bioclastic limestone, conglomerate and chert	
LOWER PERMIAN		
Pv	VAN HAUEN FORMATION: dark coloured shale, siltstone, minor chert	
PALEOZOIC		
CARBONIFEROUS AND PERMIAN		
UPPER CARBONIFEROUS AND LOWER PERMIAN		
CPh	HARE FIORD FORMATION: dark coloured siltstone, shale, limestone	
CARBONIFEROUS		
UPPER CARBONIFEROUS		
Co	OTTO FIORD FORMATION: anhydrite, gypsum, minor limestone and shale	
Pt		TANQUARY FORMATION: limestone, sandstone siltstone

INTRUSIVE ROCKS

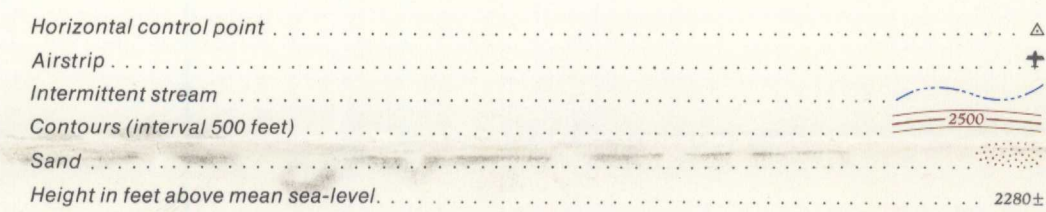
TERTIARY	
Col	OTTO FIORD FORMATION: anhydrite, gypsum, minor limestone and shale (see note 5)
CRETACEOUS	
///	Gabbro, diabase and basalt dykes (solid circle indicates downthrow side of fault intruded by dyke) see note 6

Geological boundary (defined, approximate, assumed)	.....
Bedding, tops known (inclined)	.....
Bedding (from air photographs or observed from aircraft)	.....
Fault (defined, approximate; solid circle indicates downthrow side)	.....
Thrust fault (defined, assumed; teeth indicate upthrust side)	.....
Transcurrent fault (arrows indicate relative movement)	.....
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 7)	.....

NOTES

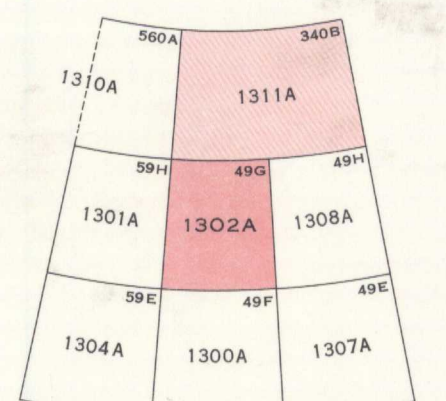
- A basalt flow of uncertain stratigraphic position and about 100 feet thick crops out adjacent to the shore of Eureka Sound, north of the entrance to Mokka Fiord. The strike of the flow more or less parallels Mokka Fiord. The flow underlies conformably the Eureka Sound Formation, but no sediments are exposed beneath it. The flow is provisionally included in the Christopher Formation.
 - The area outlined represents the lower part of the Slidre Fiord map (1298A). This is a detailed geologic map of the environs of the Eureka Weather Station on the scale of 1:50,000.
 - The Eureka Sound Formation on Fosheim Peninsula, and east of the Depot Point anticline on Axel Heiberg Island, lies conformably on the Kanguk Formation and consists mainly of sandstone. In other parts of Axel Heiberg Island, the Eureka Sound Formation lies unconformably on either the Isachsen Formation or Christopher Formation, and consists mainly of conglomerate.
 - The Savik Formation west of the Joy Range consists mainly of shale with lesser amounts of siltstone and sandstone, and is readily differentiated in the topography from the underlying Borden Island Formation and overlying Awingak Formation. On the west side of the Joy Range, the Borden Island Formation (Lower Jurassic), which consists of about 200 feet of grey sandstone with interbeds of dusky red ferruginous sandstone, is included on this map with the Heiberg Formation. East of the Joy Range, the Savik Formation is mainly sandstone with lesser amounts of shale and siltstone, and does not constitute an easily picked map-unit where exposures are poor. Because of these circumstances, the Borden Island, Savik and Awingak Formations, east of the Joy Range, have been mapped as one map-unit that bears the letter symbol J.
 - Limited exposures of the Otto Fiord Formation occur in normal stratigraphic sequence north of Whitsunday Bay, overlying the Stolz Thrust. Extensive exposures of the formation crop out in normal stratigraphic successions in northwestern Ellesmere Island, and it is there that 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. They 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 (volcanic) 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 numerous and commonly thick (up to 400 feet) in the Blind Fiord, Blaa Mountain and Heiberg Formations on Axel Heiberg Island. They are rare and generally thin (up to about 100 feet) in the Hare Fiord, van Hauen, Savik, Awingak, Deer Bay, Isachsen and Christopher Formations on this island. Sills are numerous and thick in the Heiberg and Blaa Mountain Formations in western regions of Ellesmere Island but do not occur in exposures of the Heiberg Formation east of the Fosheim Anticline.
7. The map-area contains the type sections of the Heiberg, Savik and Awingak Formations.

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

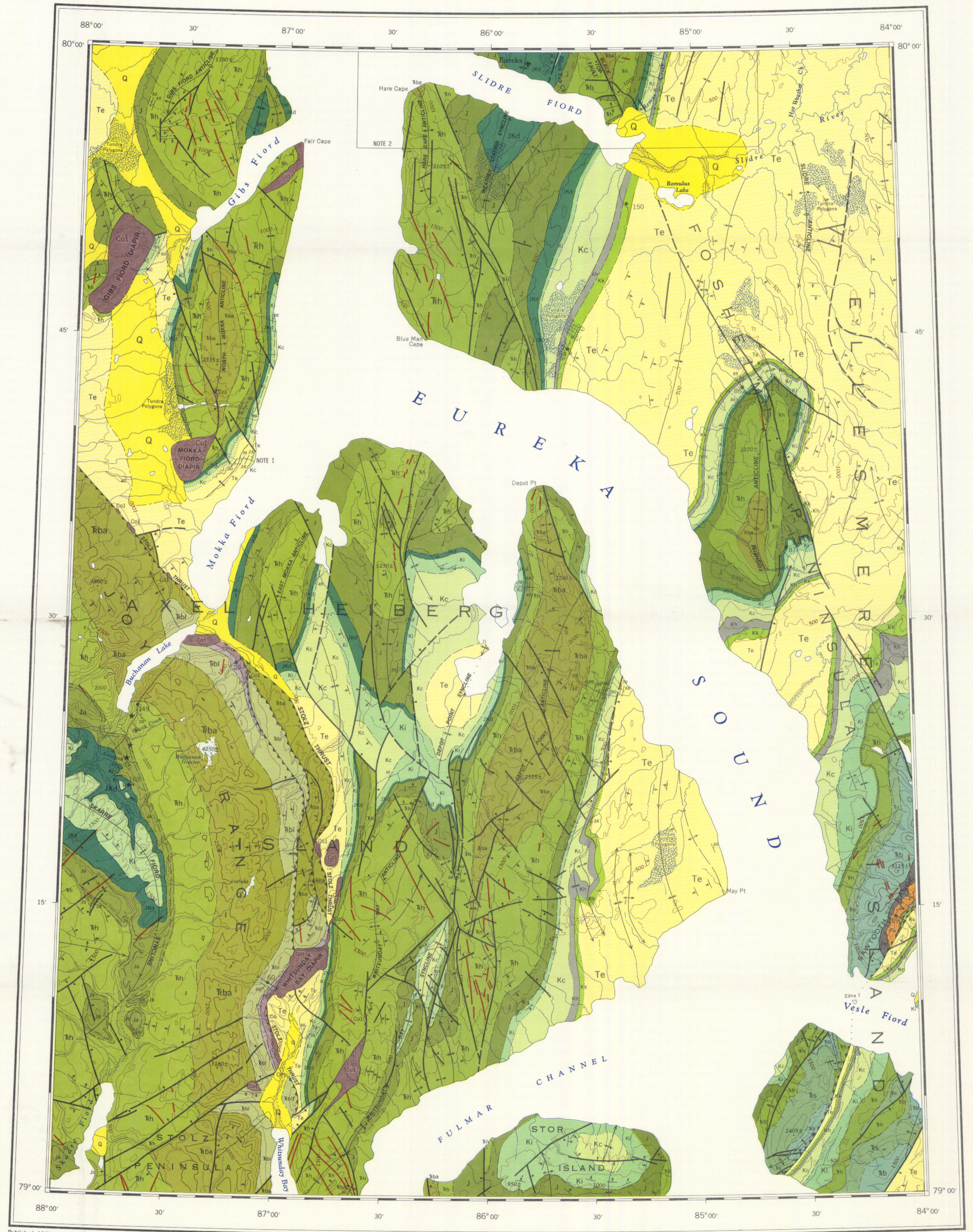
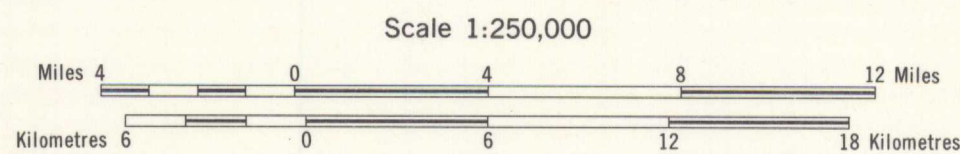


Topographic base-map at the same scale published by the Surveys and Mapping Branch in 1966, with revisions by the Institute of Sedimentary and Petroleum Geology, 1971

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



MAP 1302A
GEOLOGY
EUREKA SOUND NORTH
DISTRICT OF FRANKLIN



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

Printed by the Surveys and Mapping Branch

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MAP 1302A
EUREKA SOUND NORTH
DISTRICT OF FRANKLIN

1302A

N.W.T. EUREKA SOUND NORTH
1:250,000
MAP 1302A