

COMPOSITE LEGEND  
(NTS 89B, 89C, 98H, 99A; parts of 88G, 89A, 89D)

CONTINENTAL TERRACE WEDGE

NEOGENE

PLIOCENE

TB

BEAUFORT FORMATION (10-1000 m): Sandstone, fine grained, quartzose, pale yellowish orange, unconsolidated, cross-stratified, uncalified wood, peat; minor gravel, mud; fluvial braid plain and overbank

SVERDRUP BASIN SUCCESSION

CRETACEOUS

UPPER CRETACEOUS

KK3

KANGUK FORMATION (Turonian - Campanian) (Kc1 - Kc3): Upper shale member (75+ m): Shale, dark grey and brownish black, variably silty, siliceous and bentonitic; bentonitic clay, yellow and greyish yellow; offshore marine

KK2

Eglinton Member (10-50 m): Sandstone, medium to coarse grained, quartzose, variably pebbly, manganeseiferous and oolitic; minor pebble conglomerate; nearshore marine

KK1

Lower shale member (150-200 m): Shale, dark grey, brownish black and black, variably silty, siliceous and bentonitic; bentonitic clay, yellow and greyish yellow; offshore marine

LOWER CRETACEOUS

KH

HASSEL FORMATION (Albian) (20-35 m): Sandstone, fine and very fine grained, pale olive grey and yellowish grey, variably quartzose, pebbly, and carbonaceous, uncemented; siltstone, ferruginous and manganeseiferous; minor shale; nearshore marine

KC

CHRISTOPHER FORMATION (Aptian and Albian) (320 m): Shale, dark grey, black and brownish black; siltstone, minor very fine sandstone; minor bentonite in the upper part; common mudstone and calcareous siltstone concretions, variably rich in bivalves; offshore marine

KI

ISACHSEN FORMATION (Barremian and Aptian) (40-485 m): Sandstone, fine to coarse grained, quartzose and carbonaceous, light grey, minor lignite coal and clay-supported conglomerate; fluvial, deltaic and nearshore marine

JURASSIC AND CRETACEOUS

UPPER JURASSIC AND LOWER CRETACEOUS

JKD2

DEER BAY FORMATION (Volgian - Valanginian) (JKD1, J01; east of Intrapid Inlet) (70-150 m): Upper part: shale, grey, siltstone, minor sandstone, fine grained, greenish grey; offshore marine shelf

J01

Lower part: very fine sandstone, siltstone and shale; grey to greenish grey, common bivalves, arranged in numerous coarsening-upward rhythms; offshore marine shelf

JURASSIC

UPPER JURASSIC

JA

AWINGAK FORMATION (Volgian) (40-110 m): Sandstone, quartzose, fine grained, variably cemented with calcite, light greenish grey, yellowish grey and pale yellowish orange; siltstone, common bivalves, minor conglomerate; nearshore marine shelf

JR

RINGNES FORMATION (Oxfordian and Kimmeridgian) (5-210 m): Shale, dark grey to black; siltstone, minor fine grained sandstone and basal lag gravel; common calcareous mudstone concretions; offshore marine shelf

WILKIE POINT GROUP (Pliensbachian - Callovian) (JUS-JHC)

LOWER AND MIDDLE JURASSIC

JHC2

HICICLES COVE FORMATION (Bathonian and Callovian) (JHC1, JHC2; northeast of Mould Bay) (0-145 m): Upper part: quartzose sandstone, very light grey and yellow grey, very fine to medium grained, cross-stratified, weakly consolidated, castellate weathering; thin coal beds and coaly sandstone, minor sandstone intracasts; local shale unit at the base, north and east of Intrapid Inlet only; nearshore marine shelf and deltaic

JHC1

Lower part: quartzose sandstone, calcite cemented or weakly consolidated, very fine to medium grained, yellowish grey and pale yellowish orange; fossiliferous ironstone; minor siltstone; common phosphatic nodules and incinerated; (JHC1: the base of the mapped lower Hicicles Cove Formation, in all areas southwest of Intrapid Inlet, usually includes 1 to 5 m of beds assignable to the McConnell Island Fm.); nearshore marine shelf

JMI2

McCONNELL ISLAND FORMATION (Bajocian and Bathonian) (JMI1, JMI2; east of Intrapid Inlet) (0-40 m): Upper part: shale, yellowish brown and medium grey; siltstone; common calcareous sandstone concretions; offshore marine shelf

JMI1

Lower part: sandstone, very fine to fine grained, calcite cemented or weakly consolidated, yellowish orange; fossiliferous ironstone; nearshore marine shelf

JUS

JAMESON BAY AND SANDY POINT FORMATIONS (undivided) (Pliensbachian - Aalenian) (0-150 m): Shale, light to medium grey and greenish grey, variably glauconitic; quartzose sandstone, weakly consolidated or calcite cemented, fine grained; ironstone, variably oolitic, glauconitic and chamositic; local pebble conglomerate at base; common ammonites, belemnites, silicified wood and phosphatic nodules; (uncemented quartzose sandstones high in the map unit are assigned to the Sandy Point Fm.); marine shelf

HEIBERG GROUP (JLI; additional formations in subsurface only)

LOWER JURASSIC

JLI

LOUGHED ISLAND FORMATION (Stenian) (0-35 m): Shale, greenish grey; siltstone, minor sandstone, variably calcite-cemented, argillaceous and very fine grained; oolitic ironstone and red weathering shale unit at base; common ammonites and phosphatic nodules; offshore marine shelf

SCHEI POINT GROUP (TPB; additional formations in subsurface only)

TRIASSIC

UPPER TRIASSIC

TPB

PAT BAY FORMATION (Norian) (0-25 m): Sandstone, fine to coarse grained, pale yellowish orange, calcareous and bioclastic; minor pebbles; lacustrine limestone; red shale interbeds; common Gryphaea and other bivalves; nearshore marine shelf

LOWER TRIASSIC

TBB

BLIND FIORD AND BJORNE FORMATIONS (undivided): Sandstone, shale, conglomerate (subsurface only)

CARBONIFEROUS AND PERMIAN STRATA (undivided)

CP

Shale, sandstone, limestone, minor conglomerate, chert (subsurface only)

FRANKLINIAN SUCCESSION

MELVILLE ISLAND GROUP (DB-DPI)

DEVONIAN

UPPER DEVONIAN

DPI

PARRY ISLANDS FORMATION (Frasnian and Famennian) (500+ m): Sandstone, quartzose and cherty, kaolinite-cemented, very fine to coarse grained, pale yellowish orange, white and yellowish brown, medium and thick bedded; green siltstone, minor chert pebble conglomerate and bituminous coal; fluvial and deltaic

DBI

BEVERLEY INLET FORMATION (Frasnian) (0-520 m): Sandstone, quartzose, kaolinite-cemented, fine and very fine grained, pale yellowish orange, white, and pale green, thin and medium bedded; siltstone, locally red weathering shale, greyish green; minor chert pebble conglomerate and bituminous coal; fluvial, deltaic and marginal marine

MIDDLE AND UPPER DEVONIAN

DW

WEATHERALL FORMATION (Givetian and Frasnian) (1300+ - 1700+ m): Siltstone, greyish green; sandstone, very fine grained, pale green and greyish green, variably calcareous and fossiliferous, thin bedded; shale, greyish green; numerous coarsening-upward rhythms; minor bituminous coal; delta front and marginal marine

DCB

CAPE DE BRAY FORMATION (Eifelian and Givetian) (530+ - 1000? m): Shale, silty, calcareous, and micaceous, greyish green; siltstone, minor sandstone, very fine grained, argillaceous, silty, and thin bedded; basin slope

DB

BLACKLEY FORMATION (Eifelian): Sandstone, argillaceous, medium grey and greenish grey; very fine grained; shale, deep marine fan (subsurface only)

LOWER DEVONIAN

DK

KITSON FORMATION: Shale, argillaceous limestone; condensed deep marine (subsurface only)

SILURIAN(?) STRATA (unnamed)

SC

Limestone, dolomite, minor calcareous shale; unrestricted marine shelf (subsurface only)

JKD

DEER BAY FORMATION (undivided at surface north of Green Bay and west of Intrapid Inlet)

JRA

RINGNES AND AWINGAK FORMATIONS (undivided at surface near Landing Lake and around Walker Inlet)

JMH

McCONNELL ISLAND AND HICICLES COVE FORMATIONS (undivided at surface in the Mould Bay area)

JMI

McCONNELL ISLAND FORMATION (undivided east and north of Mould Bay, and west of Intrapid Inlet)

JJB

JAMESON BAY FORMATION (Toarcian) (younger and older beds missing at surface in the Mould Bay area)

TRIASSIC AND JURASSIC

UPPER TRIASSIC AND LOWER JURASSIC

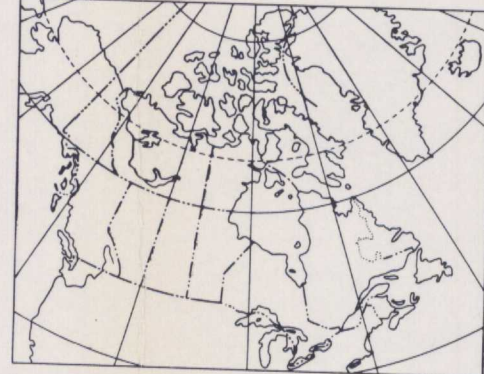
TJH

HEIBERG GROUP (undivided): Sandstone, shale (subsurface only)

MIDDLE AND UPPER TRIASSIC

TSP

SCHEI POINT GROUP (undivided): Sandstone, calcareous sandstone, shale, minor limestone (subsurface only)



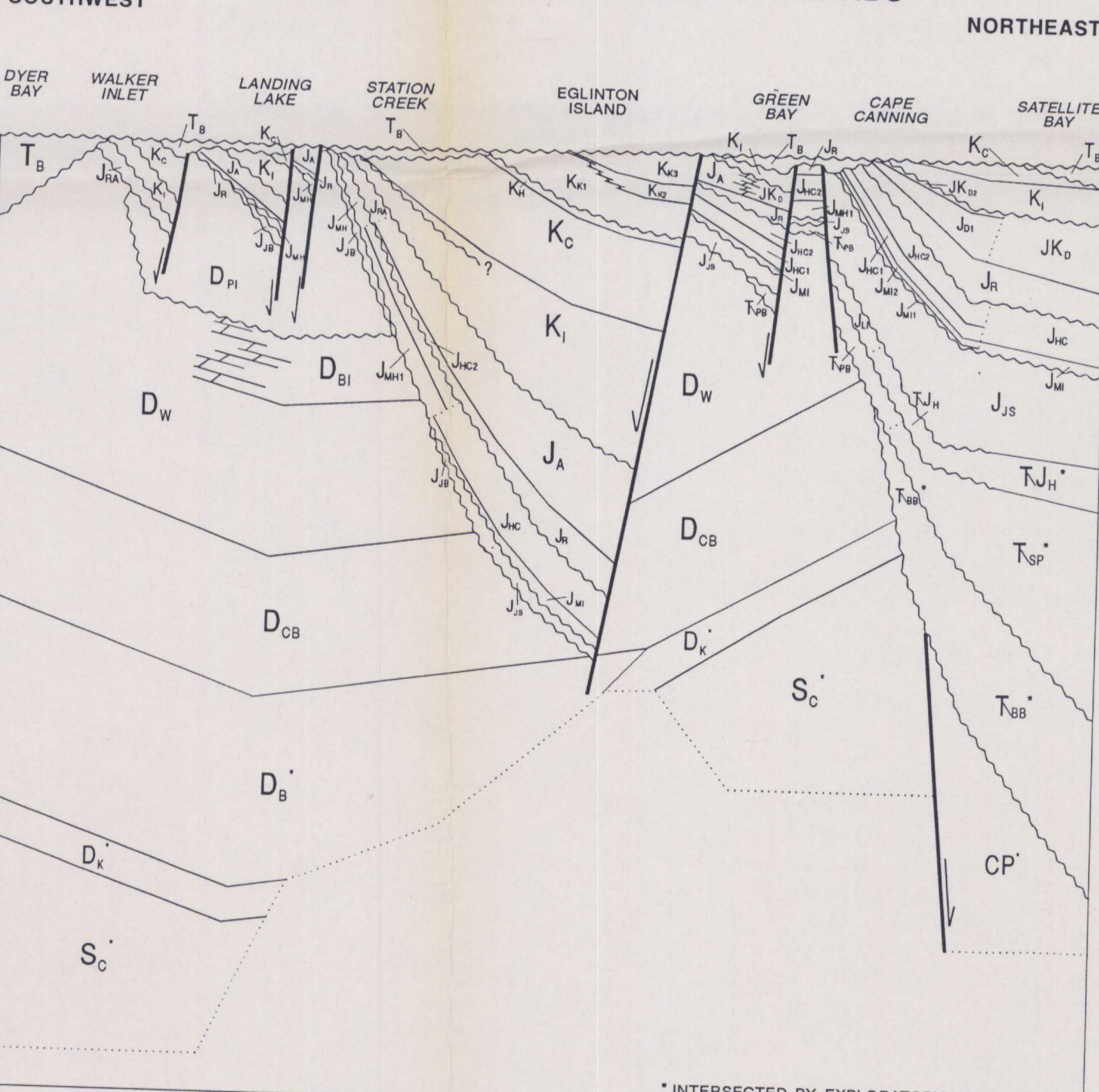
OPEN FILE  
DOSSIER PUBLIC  
2654  
GEOLOGICAL SURVEY  
COMMISSION GEOLOGIQUE  
OTTAWA

GEOLOGY OF PRINCE PATRICK AND EGLINTON ISLANDS, CANADIAN ARCTIC ARCHIPELAGO

DISTRICT OF FRANKLIN  
NORTHWEST TERRITORIES  
Scale 1:125 000

SHEET 5 OF 5: COMPOSITE LEGEND WITH EXPLANATORY NOTES

SCHEMATIC STRATIGRAPHIC RELATIONSHIPS: PRINCE PATRICK AND EGLINTON ISLANDS



Geological compilation by J.C. Harrison

Geology by J.C. Harrison, 1987, 1991 and 1992, supported by A.F. Embry, T.P. Poulton, G. Goodbody, J.G. Fyles, D.A. Hodgson and J.H. Wall in 1987; R. Brady in 1991 and T. de Fretes in 1992. Additional observations from E.T. Tozer and R. Thorsteinsson, Geological Survey of Canada, Memoir 332 (1964) and from A.F. Embry and J.E. Klovén, Bulletin of Canadian Petroleum Geology, v. 24, no. 4 (1976).

Thanks are extended to A.F. Embry for critical comments and advice in the preparation of this preliminary map for publication; and to the Polar Continental Shelf Project for logistical support in the field.

Base maps assembled from the topographic maps published at the same scale by the Army Survey Establishment, R.C.E., 1965; and by the Surveys and Mapping Branch, Energy, Mines and Resources, Canada, 1983.

Copies of the topographic maps covering this area may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, Ontario K1A 0G9.

Magnetic declination in 1990 varied from 54° easterly, decreasing 29' annually, in the vicinity of Cape Manning (lat. 75°52' N; long. 122°20' W) to 55°E easterly, decreasing 35' annually, at Mould Bay Station (lat. 76°15' N; long. 119°22' W) to 62° easterly, decreasing 50' annually in the vicinity of Cape Krabbe (lat. 77°30' N; long. 116°02' W). The daily change in the position of the North Magnetic Pole causes the magnetic compass to be very erratic in this area.

Elevations in feet above mean sea level

SCHEDULE OF WELLS

Elf Jameson Bay C-31	T.D. 2538.0 m	(abandoned 5/71)
BP et al. Satellite F-68	T.D. 3723.9 m	(abandoned 5/72)
Elf Intrapid Inlet H-49	T.D. 1716.6 m	(abandoned 3/73)
Ellen Andressen L-32	T.D. 2174.2 m	(abandoned 5/73)
Panarctic Gulf Eglinton P-24	T.D. 1859.6 m	(abandoned 7/74)
Panarctic et al. Pedder Pt. D-49	T.D. 1897.3 m	(abandoned 11/74)
Ellen et al. Wilkie Pt. J-51	T.D. 2374.7 m	(abandoned 5/75)
Elf et al. Dyer Bay L-49	T.D. 3208.9 m	(abandoned 2/78)

