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GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA
OTTAWA
1973

QUATERNARY

Q — Stream, deltaic, glacial, beach, and marine deposits (mapped only where underlying bedrock geology cannot be inferred with reasonable certainty)

TERTIARY
UPPER TERTIARY

Tb — Beaufort Formation: sand, gravel

CRETACEOUS AND TERTIARY
UPPER CRETACEOUS AND LOWER TERTIARY

KTe — Eureka Sound Formation: sandstone, conglomerate, siltstone; minor shale, coal

KTe* — as above; may include upper Tertiary sand and gravel

CRETACEOUS
UPPER CRETACEOUS

uK — Kanguk and Hassel Formations undivided: sandstone, shale, siltstone, mudstone; minor pyroclastic rocks

KH — Hassel Formation: sandstone; minor siltstone, shale

LOWER CRETACEOUS

Kc — Christopher Formation: shale; minor siltstone, sandstone, mudstone, pyroclastic rocks

Ki — Isachsen Formation: sandstone; minor shale, siltstone, conglomerate

IK — Christopher and Isachsen Formations undivided

KI* — as above; includes overlying basalt

JURASSIC AND CRETACEOUS
UPPER JURASSIC AND LOWER CRETACEOUS

JKD — Deer Bay Formation: shale; minor siltstone, sandstone, mudstone

JK — Deer Bay Formation and Jurassic undivided

JK* — as above; includes Isachsen Formation

JURASSIC

J — Sandstone, shale, siltstone

PLUTONIC ROCKS

DEVONIAN
MIDDLE TO UPPER DEVONIAN OR OLDER

Dqm, ad, di — Quartz monzonite, quartz diorite, diorite

? Dqm — Quartz monzonite metamorphosed in greenschist facies (may be Ordovician or older)

LOWER DEVONIAN

1Dqm — Cape Richards complex: quartz monzonite, granodiorite, syenite; minor quartz diorite

Dbr — Cape Fanshawe Martin intrusion: gabbro, peridotite; minor granitic rocks

1Dqd — Diorite, granodiorite, syenodiorite

LOWER DEVONIAN OR OLDER

Dub — Serpentinite, serpentinized peridotite, wehrlite; minor gabbro

AGE UNCERTAIN, POSSIBLY LOWER DEVONIAN

Db — Bourne complex: diabase sills or dykes; minor slaty siltstone and shale, green phyllite, volcanic flows, and hornfels

Ddu — Dunite, serpentinite

ORDOVICIAN AND/OR OLDER
PRE-UPPER MIDDLE ORDOVICIAN

>uOy — Metasyenite

Ms. drafting

	mapped: cartographically simplified	extrapolated under water, ice, overburden or through unmapped terrain	Publication
Geological contact			
Limit of sufficiently detailed mapping using current formations and metamorphic units			
Limit of areas known from early reconnaissance, hasty air observation, or air photo interpretation only			
Normal fault (hachures on hanging wall)			
Thrust fault; low angle; displacement moderate to large (teeth on hanging wall)			
Reverse fault; high angle; displacement small (teeth on hanging wall)			
Structural trends (gneissosity in metamorphic terrains; bedding in tightly folded sedimentary terrains)			
Anticline (symmetric; overturned)			
Syncline (symmetric)			
Direction of plunge of folds			

TRIASSIC
UPPER TRIASSIC

TRH — Heiberg Formation: sandstone, siltstone, shale

TRss (ss: lower case) — Heiberg, Schei Point, and Bjorne Formations undivided

Axial region of Sverdrup Basin

MIDDLE AND UPPER TRIASSIC

TRBA — Blue Mountain Formation: shale, siltstone; minor sandstone

LOWER TRIASSIC

TRBL — Blind Fiord Formation: siltstone, sandstone, shale; minor conglomerate

TRP (P: lower case) — Blue Mountain and Blind Fiord Formations undivided

Marginal regions of Sverdrup Basin

MIDDLE AND UPPER TRIASSIC

TRS — Schei Point Formation: siltstone, sandstone, shale; minor limestone

LOWER TRIASSIC

TRB — Bjorne Formation: sandstone; minor siltstone, shale

TRB* — as above; includes thin Schei Point Formation

PERMIAN

Northwestern parts of Sverdrup Basin

UPPER PERMIAN

PD — Degerböls Formation: limestone, chert

PD* — as above; includes basic flows and pyroclastic rocks of Lower Permian Esayoo Formation

LOWER PERMIAN

PV — van Hauen Formation: siltstone, limestone, chert, sandstone, and shale

PV* — as above; includes basic flows and pyroclastic rocks of Lower Permian Esayoo Formation

PVD — van Hauen and Degerböls Formations undivided

Southeastern parts of Sverdrup Basin

UPPER PERMIAN

PTF — Trold Fiord Formation: sandstone; minor conglomerate, limestone, chert

PTF* — as above; includes basic flows and pyroclastic rocks of Lower Permian Esayoo Formation

UPPER AND LOWER PERMIAN

Pss (ss: lower case) — Trold Fiord, Assistance and Sabina Formations undivided: sandstone; minor limestone, chert

Northernmost Ellesmere Island

PERMIAN

PF — Feilden and Dana Bay Groups undivided: limestone; minor sandstone, conglomerate

PERMIAN AND/OR UPPER CARBONIFEROUS

PG — Guide Hill Group: sandstone, conglomerate, shale, limestone

CARBONIFEROUS AND PERMIAN

Northwestern and southeastern carbonate belts of Sverdrup Basin

UPPER CARBONIFEROUS AND LOWER PERMIAN

CPN — Nansen Formation: limestone; minor sandstone, siltstone, chert, dolomite

CPN' — as above; includes Lower Carboniferous Emma Fiord Formation and Upper Carboniferous Borup Fiord Formation

CPN° — as above; includes Carboniferous Emma Fiord, Borup Fiord, and Audhild Formations

CPN* — as above; may include Upper Carboniferous Borup Fiord Formation, and Permian van Hauen and Degerböls Formations

CPN^x — as above; includes Upper Carboniferous Borup Fiord Formation and Permian Trold Fiord Formation

CPN' — as above; includes Permian Trold Fiord Formation

Cv — UPPER CARBONIFEROUS OR YOUNGER basalt, pyroclastic rocks

Axial evaporitic and pelitic belt of Sverdrup Basin

UPPER CARBONIFEROUS AND LOWER PERMIAN

CPH — Hare Fiord Formation: siltstone, shale, limestone

UPPER CARBONIFEROUS

Co — Otto Fiord Formation: anhydrite, gypsum; minor limestone, shale

CPOH — Otto Fiord and Hare Fiord Formations undivided

⊙ — Diapir of Otto Fiord Formation (probably intruded during Late Cretaceous to early Tertiary)

Carbonate-clastic-evaporitic belt at southeastern margin of Sverdrup Basin

LOWER PERMIAN

PT — Tanquary Formation: limestone, sandstone, siltstone

PT* — as above; includes Permian Mount Bayley and Upper Carboniferous Antoinette Formations

PMB — Mount Bayley Formation: anhydrite, gypsum, minor limestone, siltstone, shale

UPPER CARBONIFEROUS

CPAN — Antoinette Formation: limestone; minor siltstone, shale

UPPER CARBONIFEROUS AND LOWER PERMIAN

CPBC — Belcher Channel Formation: limestone; minor siltstone, sandstone

CPBC* — as above; includes Permian Sabine Bay and, locally, Carboniferous Canyon Fiord Formation

CARBONIFEROUS

Northwestern parts of Sverdrup Basin

UPPER CARBONIFEROUS

CA — Audhild Formation: basalt; minor pyroclastic rocks

CB — Borup Fiord Formation: sandstone, conglomerate; minor dolomite, siltstone, shale, limestone

CB* — as above; includes siltstone and minor shale, sandstone, and coal of Lower Carboniferous Emma Fiord Formation

Southeastern parts of Sverdrup Basin

UPPER CARBONIFEROUS

Cc (C: upper case) — Canyon Fiord Formation: sandstone, siltstone, limestone, conglomerate

M'Clintock Inlet, northern Ellesmere Island

UPPER CARBONIFEROUS

Ce (e: lower case) — Gypsum, anhydrite; minor sandstone, conglomerate

Cs (s: lower case) — Sandstone, siltstone, mudstone, limestone, shale, conglomerate; minor gypsum-anhydrite, limestone breccia

Northeasternmost Ellesmere Island

UPPER CARBONIFEROUS (?)

CSH (S: upper case) — Sail Harbour Group: shale, slate, limestone

CARBONIFEROUS

Northern Axel Heiberg Island

DEVONIAN
LOWER DEVONIAN AND/OR YOUNGER

DSV — Svartevaag Formation: sandstone, tuff, intermediate to basic volcanic flows, conglomerate, breccia, slaty siltstone and shale

DEVONIAN AND (?) SILURIAN
LOWER DEVONIAN AND (?) UPPER SILURIAN

DST — Stallworthy Formation: Sandstone, siltstone, mudstone, conglomerate, breccia

SILURIAN
MIDDLE SILURIAN

SLA — Lands Lokk Formation, Member A: slaty siltstone and shale; minor sandstone, tuff, conglomerate

Emma Fiord region, northeastern Ellesmere Island

SILURIAN
UPPER SILURIAN

SLC — Lands Lokk Formation, Member C: slaty siltstone and shale, sandstone; minor conglomerate

SLB — Lands Lokk Formation, Member B: tuff, slaty siltstone and shale, sandstone; minor intermediate volcanic flows, limestone, agglomerate

MIDDLE AND UPPER SILURIAN

SLA — Lands Lokk Formation, Member A: slaty siltstone and shale; minor sandstone, tuff conglomerate

ORDOVICIAN (?) AND SILURIAN
UPPER ORDOVICIAN (?) AND LOWER SILURIAN

OSI — Imina Formation: sandstone, slaty siltstone and shale; minor conglomerate

Phillips Inlet region, northeastern Ellesmere Island

SILURIAN (?)
UPPER SILURIAN (?)

Ss — Dolomite, limestone

Sv — Intermediate to basic fragmental volcanic rocks and flows; minor sandstone

ORDOVICIAN (?) AND SILURIAN
UPPER ORDOVICIAN (?), LOWER AND (?) MIDDLE SILURIAN

OSI* — Imina and Lands Lokk Formations undivided (Imina predominant): sandstone, slaty siltstone and shale; minor conglomerate

OSIm* — as above; metamorphosed in greenschist facies

ORDOVICIAN (?)
UPPER ORDOVICIAN (?)

OCN ? — Challenger Group (?): slate, phyllite, limestone

M'Clintock Inlet, north coast of Ellesmere Island

SILURIAN
UPPER SILURIAN

SM* — Marvin Formation: limestone, minor sandstone; includes underlying sandstone, siltstone, shale, and overlying sandstone, minor limestone, siltstone

ORDOVICIAN AND SILURIAN
UPPER ORDOVICIAN (?), LOWER AND (?) MIDDLE SILURIAN

OSI — Imina Formation: sandstone, slaty siltstone and shale; minor conglomerate

ORDOVICIAN
UPPER ORDOVICIAN

OCH — Challenger Group: limestone, dolomite, sandstone, shale, siltstone, conglomerate

OCH* — as above; includes fault slice(s) of Silurian Marvin Formation

UPPER AND (?) MIDDLE ORDOVICIAN

OMC — M'Clintock Formation: intermediate volcanic flows and tuffs; minor tuffaceous calcarenite, limestone

MIDDLE ORDOVICIAN

OCD — Cape Discovery Formation: sandstone, siltstone, limestone; minor conglomerate, dolomite, gypsum, tuff

>uOv — LOWER MIDDLE ORDOVICIAN AND/OR OLDER (probably Lower to lower Middle Ordovician) Acidic to intermediate volcanic flows and tuffs, chert, slate; minor limestone; metamorphism of subgreenschist to greenschist facies

>uOc — Slaty limestone

Hazen Plateau and southern Grantland Mountains

SILURIAN
UPPER SILURIAN

SM — Marvin Formation: Limestone, dolomite

ORDOVICIAN AND SILURIAN
UPPER MIDDLE ORDOVICIAN TO LOWER OR MIDDLE SILURIAN

OSI — Imina Formation: sandstone, slaty siltstone and shale; minor conglomerate

ORDOVICIAN
LOWER TO LOWER MIDDLE ORDOVICIAN

OH — Hazen Formation: chert, slate, limestone; minor siltstone, breccia, dolomite

ORDOVICIAN AND/OR CAMBRIAN
LOWER ORDOVICIAN AND/OR CAMBRIAN

€G — Grant Land Formation: sandstone, slate, phyllite; minor conglomerate, limestone

Judge Daly Promontory

DEVONIAN
LOWER DEVONIAN

DE — Eids Formation: siltstone

ORDOVICIAN, SILURIAN, AND DEVONIAN
UPPER ORDOVICIAN TO LOWER DEVONIAN

ODCP — Cape Phillips Formation: siltstone, shale

ORDOVICIAN AND SILURIAN
UPPER ORDOVICIAN AND LOWER SILURIAN

OSA — Allen Bay Formation: dolomite; minor limestone

ORDOVICIAN
LOWER TO LOWER UPPER ORDOVICIAN

OEC — Eleanor River Formation and Cornwallis Group undivided: limestone; minor dolomite, siltstone, anhydrite, gypsum

LOWER ORDOVICIAN

OB — Baumann Fiord Formation: anhydrite, gypsum; minor limestone

OCB — Copes Bay Formation: limestone; minor flat-pebble conglomerate, anhydrite, dolomite

CAMBRIAN
MIDDLE CAMBRIAN

€PR — Parrish Glacier Formation: limestone, shale; minor sandstone, flat-pebble conglomerate

LOWER CAMBRIAN

€SB — Scoresby Bay Formation: dolomite; minor limestone

HADRYNIAN AND CAMBRIAN
HADRYNIAN AND LOWER CAMBRIAN

PE — Ellesmere Group, Ella Bay Formation, and Kennedy Channel Formation undivided: sandstone, siltstone, conglomerate, phyllite, limestone, dolomite

METAMORPHIC AND METAMORPHIC-PLUTONIC COMPLEXES, NORTH COAST OF ELLESMERE ISLAND

(Metamorphism is of different ages; age of original strata generally uncertain)

Kleybolte Peninsula, northeasternmost Ellesmere Island

>CPg — Shale, siltstone, sandstone, and minor limestone thermally metamorphosed to hornfels, quartzite, and marble by numerous, small plutons of Middle or Late Devonian (?) quartz diorite or related rocks

>Cvg — Greenstone with small intrusions of Middle or Late Devonian (?) diorite, etc.

East of Hanson Bay

>DSb — Sandstone, siltstone, shale, and carbonate rocks, probably mainly of pre-Silurian age metamorphosed in greenschist to amphibolite facies; metamorphism probably in part Devonian, but earlier phases may also be represented

Northeast of Phillips Inlet

> mg — Siltstone, sandstone, shale, volcanic and carbonate rocks of probable pre-Silurian ages metamorphosed in greenschist and amphibolite facies; metamorphism probably in part Devonian but older phases may also be represented; numerous, concordant sheets of Middle or Late Devonian (?) quartz monzonite etc.

Yelverton Bay to Ayles Fiord, Ward Hunt Island to Cape Columbia

Predominantly sedimentary rocks of pre-upper Middle Ordovician ages metamorphosed in greenschist and amphibolite facies; may represent more than one phase of pre- upper Middle Ordovician metamorphism

>uOm — amphibolite facies: mica-quartz-feldspar gneiss, hornblende-bearing gneiss, amphibolite (all units commonly garnetiferous); minor marble

>uOsb — amphibolite to greenschist facies: mica-schist, commonly garnetiferous and muscovite-rich; calcareous biotite schist; minor staurolite ± kyanite schist and amphibolite on Mann Bay; marble and minor staurolite and silliminaite schists on M'Clintock Inlet

>uOsl — greenschist facies: chlorite-quartz schist, phyllite, slate, marble, quartzite; minor amphibolite on Ayles Fiord

>uO — amphibolite and greenschist facies undivided

Perr Bay to Clements Markham Inlet

>uOMD — Mount Disraeli Group: slate, phyllite, limestone, dolomite, marble; minor quartzite, conglomerate; original sediments and metamorphism of greenschist facies probably of pre-upper Middle Ordovician ages

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