GEOLOGICAL SURVEY OF CANADA COMMISSION GÉOLOGIQUE DU CANADA

DEPARTMENT OF ENERGY, MINES AND RESOURCES
MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES

LEGEND

CENOZOIC

QUATERNARY
PLEISTOCENE AND HOLOCENE

- Qu — Hummocky or ridged moraine and lacustrine deposits
- Qf — Fluvialle silt, sand and gravel
- Qff — Fluvialle fan and fan apron deposits
- Qgf — Glaciofluvial deposits
- Ql — Lacustrine deposits and minor fluvial deposits
- Qmm — Hummocky or ridged moraine in areas of mountain glaciation
- Qml — Hummocky or ridged moraine in areas of Laurentide glaciation
- Qd — Rock slide debris
- Qe — Marine and estuarine deposits
- B — Pediments; mostly with thin cover of colluvium and/or organic deposits

TERTIARY AND QUATERNARY
PALEOCENE TO PLEISTOCENE

- Tb — Sandstone, mudstone, fluviodeltaic. Includes Beaufort Formation and Quaternary surficial deposits; undivided
- Tg — Sand, silt and pebble beds in eastern Old Crow Plain
- Tk — REINDEER FORMATION: sand, gravel, lignite, mud; marine and nonmarine
- TwC — MOOSE CHANNEL FORMATION: sandstone, mudstone, siltstone; alluvial, deltaic and littoral

CRETACEOUS AND TERTIARY
UPPER CRETACEOUS AND LOWER TERTIARY

- KTbP — BONNET PLUME FORMATION (upper part): sandstone, mudstone, coal; fluviatile and lacustrine

CRETACEOUS
UPPER CRETACEOUS

- Kn — TENT ISLAND FORMATION: mudstone, sandstone, conglomerate; marine and fluviatile. Includes Cuesta Creek Member at base
- KBC — BOUNDARY CREEK FORMATION: bituminous shale; bentonite; marine
- KBP — BONNET PLUME FORMATION (lower part): conglomerate, sandstone, coal; fluviatile and lacustrine
- KEP2 — EAGLE PLAIN FORMATION (upper part): sandstone, siltstone, shale; alluvial and deltaic
- KEP1 — EAGLE PLAIN FORMATION (lower part): sandstone, siltstone, shale; marine
- KCm — Sandstone and concretionary shale exposed along Porcupine River; marine
- KM — MONSTER FORMATION: mudstone, sandstone, conglomerate; fluviatile(?); undivided

LOWER AND UPPER CRETACEOUS

- KTR — TREVOR FORMATION: sandstone, light grayish brown; mesaliximing; marine

LOWER CRETACEOUS

- Kwk — ARCTIC RED FORMATION: shale, concretionary, silty; siltstone; marine. May include Martin House Formation locally
- Kwm — MARTIN HOUSE FORMATION: sandstone, glauconitic; siltstone; marine
- Kwb — HORTON RIVER FORMATION: shale, black, bentonitic; marine
- KDr — Shale, sandstone, phosphatic iron formation; fyroshoid; marine
- Kwr — Shale, siltstone, sandstone; marine. Includes equivalents of Kingak Formation in upper Peel River area
- KKA — KATHUL GRAYWACKE: pebble-conglomerate, sandstone, siltstone, argillite; marine
- Kar — Sandstone, conglomerate; marine
- KSM — SHARP MOUNTAIN FORMATION: sandstone, conglomerate; marine

MESOZOIC

- KWR — RAT RIVER FORMATION: sandstone, siltstone; conglomeratic; marine
- KMG — MOUNT GOODENOUGH FORMATION: shale, siltstone, sandstone; marine
- KG — Sandstone, shale; marine. May include North Branch, Martin Creek, McGuire, Fault Creek and Lower Canyon formations, and Kaanan Quartzite
- KP — PARSONS GROUP: sandstone, siltstone, shale; marine

JURASSIC AND CRETACEOUS
JURASSIC AND LOWER CRETACEOUS

- JKH — HUSKY FORMATION: shale, brownish grey; siltstone; marine
- JKNB — NORTH BRANCH FORMATION: sandstone, conglomerate; glauconitic; marine
- JKK — KINGAK FORMATION: shale, siltstone; marine. May include Glenn Shale

JURASSIC

- JPG — PORCUPINE RIVER FORMATION: sandstone, grey; marine. Includes Aklavik and Husky formations in Berry Creek area
- JKu — Sandstone, siltstone, shale; marine. May include Kingak, Porcupine River and Husky formations and Bug Creek Group. Marine
- Jk — KINGAK FORMATION: shale, siltstone, sandstone; marine. May include Shublik Formation at headwaters of Minor River
- JBG — BUG CREEK GROUP: sandstone, siltstone, shale; marine. Includes Murray Ridge, Almstrom Creek, Manuel Creek, Richardson Mountains and Aklavik formations

TRIASSIC
MIDDLE AND UPPER TRIASSIC

- Ts — SHUBLIK FORMATION and equivalents: limestone, sandstone, conglomerate; marine

PERMIAN
LOWER AND MIDDLE PERMIAN

- Pr — TAHKANDIT FORMATION: limestone, light grey, skeletal, chert, spicular; marine
- Psp — STEP CONGLOMERATE: conglomerate, chert-pebble, fluviatile(?)
- Ps — SADLEROCHIT FORMATION: sandstone, shale, limestone; marine
- Pu — Undivided: shale, siltstone, limestone; marine. Includes Murray Ridge Formation in Berry Creek area
- PJC — JUNGLE CREEK FORMATION: limestone, sandstone, conglomerate; dark-brownish-grey weathering; marine
- P0 — Limestone, light grey, coarse crystalline; marine. May include beds of Late Carboniferous age

CARBONIFEROUS AND PERMIAN

- CPu — Limestone, siltstone, shale; marine. May include Nation River, Hart River, Ettrain and Jungle Creek formations

CARBONIFEROUS

- Ce — ETTRAIN FORMATION: limestone, grey, skeletal, micritic; shale; marine
- CL — LISBURNE GROUP: limestone, skeletal, micritic, cherty, light grey weathering; marine. Includes Alapah and Wahoo formations
- CWR — HART RIVER FORMATION: limestone, dolomite, chert; brown weathering; marine. May include Canol Formation locally
- Cb — Siltstone, shale, limestone; brown weathering; marine. Includes Blackie Formation
- CEN — ENDICOTT GROUP: shale, limestone, skeletal; conglomeratic coal; marine and nonmarine. Includes Kekiktuk Conglomerate and Kayak Formation
- Cr, DCr — FORD LAKE SHALE: shale, calcareous, pyritic; marine. May be Upper Devonian in part
- Ct — TUTTLE FORMATION: conglomeratic, sandstone, shale; fluviatile(?)
- MD — Sandstone, shale, coal; nonmarine
- DCu — Limestone, shale, siltstone; marine. May include Canol Formation, Ford Lake Shale, Hart River Formation, Unit Cb and Ettrain Formation

DEVONIAN AND CARBONIFEROUS

DEVONIAN
UPPER DEVONIAN

- Dus — Shale, gypsiferous, rusty weathering; marine
- Dss — Sandstone, feldspathic, rusty weathering; as left in Dus; marine
- Di — IMPERIAL FORMATION (and equivalents): sandstone, shale, siltstone; fyschoid. May include Canol Formation and Dus locally
- DCa — CANOL FORMATION: shale, siliceous, black, yellowish-red weathering; marine
- DMH — LOWER, MIDDLE (?) AND UPPER DEVONIAN: McCAIN HILL CHERT: chert, light and dark grey; shale, siliceous; marine and nonmarine

PALEOZOIC

MIDDLE DEVONIAN

- Deu — HUME FORMATION: limestone, shale; marine
- Dsh — Shale, dark greenish grey; limestone, dark grey; marine

SILURIAN AND DEVONIAN
UPPER SILURIAN, LOWER AND MIDDLE DEVONIAN

- SDu — Undivided: limestone, dolomite, shale; marine. Includes Delorme, Arnica, Cranswick, Gossage and Ogilvie formations

CAMBRIAN TO DEVONIAN
UPPER CAMBRIAN TO LOWER DEVONIAN

- CDb — Limestone, dolomite, shale; marine. May include Tagia Formation locally
- CDR — ROAD RIVER FORMATION: shale, graptolitic; limestone, argillaceous; debris flows; marine
- Granite, biotite, hornblende; syenodiorite, fluorite, hornblende; with apparent radiometric ages ranging from 408 to 230 Ma. Includes Sedgewick Co., Fifteen Gl, Old Crow Gros., Schaeffer Gun., Annemarian Gun and David Lord Gold intrusions
- CDS — Shale, graptolitic; chert; limestone; marine

ORDOVICIAN AND SILURIAN
UPPER ORDOVICIAN AND LOWER SILURIAN

- OSk — MOUNT KINGLE FORMATION: dolomite, fine- to medium-crystalline; marine

CAMBRIAN TO SILURIAN
? UPPER CAMBRIAN TO UPPER SILURIAN

- CSv — VUNTA FORMATION: limestone, fine crystalline; marine

CAMBRIAN AND ORDOVICIAN

- CO Jn — JONES RIDGE LIMESTONE: limestone, dolomite; siliceous; marine. Includes Ogilvie Formation in Tatonduk River area

UPPER CAMBRIAN AND LOWER ORDOVICIAN

- COF — FRANKLIN MOUNTAIN FORMATION: dolomite, cherty, cyclic; shale; marine

CAMBRIAN
LOWER AND UPPER CAMBRIAN

- Cwm — Volcanic conglomerate, basaltic flows, limestone beds and exotic blocks; marine (?)

LOWER, MIDDLE AND UPPER CAMBRIAN

- CST — SLATS CREEK AND TASIA FORMATIONS (Undivided): sandstone, dolomite, conglomerate, shale; marine
- CZ — Dolomite, brecciated; limestone; marine

LOWER CAMBRIAN

- Cwr — BACKBONE RANGES AND SEKWI FORMATIONS (Undivided): dolomite, silty, bright orange and yellow weathering; quartzite, varicoloured shale; marine
- Ic — ILLTYD FORMATION: limestone, light grey; fine crystalline; marine
- C1 — Shale, silty; dolomite, quartzite; marine

? HADRYNIAN

- Hs — SHEEPBED FORMATION: shale, dark grey to black; marine(?)
- Hk — KEELE FORMATION: limestone, dolomite, quartzite, shale, conglomerate; marine
- P3 — Limestone, dolomite; light grey and buff weathering; marine
- P2 — Limestone, dolomite; medium and dark grey; marine
- P1 — Shale, black slaty; siltstone, micaceous; marine
- Hr — TIRYA FORMATION: shale, siltstone, sandstone, dolomite; slumped; marine
- Hb — RAPTAN FORMATION: diamictite, variably buff, dark green and brick red; siltstone; shale, pale red; iron formation; glacial-marine
- Hn — ?NOIR GROUP: shale, dolomite, diamictite, basic sills and flows; marine

PROTEROZOIC

- Pn6 — NERUKOKPUK FORMATION (Pn0–Pn6)*: Argillite, dark grey to black; sandstone, brown weathering; litho
- Pn5 — Argillite, dark grey to greenish grey; limestone, dark grey; fine crystalline to crypto-crystalline
- Pn4 — Argillite, dark grey to dark olive grey; sandstone, olive grey, lithic; chert, medium to light grey
- Pn3 — Argillite, phyllitic; siltstone, olive grey, brown weathering
- Pn2 — Argillite, olive grey; sandstone, light grey weathering; limestone, dark grey, fine crystalline
- Pn1 — Phyllite, olive grey; quartzite, medium grey weathering
- Pn0 — Quartzite, dark grey; phyllite, dark grey; brown weathering
- Pn — NERUKOKPUK FORMATION: undivided

*Numbering does not necessarily imply stratigraphic order

THELIKIAN

- HLD — LITTLE DAL FORMATION: dolomite, gypsum, algal stromatolites, shale; marine
- Hk — KATHERINE GROUP: quartzite, shale, dolomite; marine and (?)nonmarine
- Pu — Quartzite, argillite, dolomite
- Pq, Pn — Sills and dykes; dark greenish gray; mafic
- Pq — Quartzite, white, fine grained; argillite, dark grey. Age uncertain
- Hz — TZEOTENE FORMATION: shale, sandstone, dolomite; marine and (?)nonmarine
- HG — GILLESPIE LAKE GROUP: dolomite, algal, siliceous, orange weathering; marine
- HQ — QUARTET GROUP: argillite, quartzite, slaty; intrusive breccias. May be as old as Aphebian
- HP — PAKGUICULA GROUP: dolomite, sandstone, shale; marine

Geological boundary (defined, approximate)
Lineament
Fault; extension (solid circle indicates downthrow side; defined, approximate)
Fault (assumed projection under cover of younger deposits)
Fault (arrow indicates relative movement; defined, approximate)
Fault; contraction (teeth indicate upthrust side; defined, approximate)
Fault (undesignated)
Anticline (arrow indicates plunge; defined, approximate; overturned)
Syncline (arrow indicates plunge; defined, approximate; overturned)
Anticline and syncline (asymmetrical; long arrow points in direction of dip of axial surface)
Mineral occurrence — M
Borehole (dry and abandoned; suspended gas, suspended oil, suspended gas and oil) — ○ ⊕ ✱ ✱
Tentative formational assignment — ?Kwm
Fault (line scale)
Intrusive breccia — O

MINERALS

Copper	Cu	Lead	Pb
Silver	Ag	Tungsten	W
Gold	Au	Uranium	U
Iron	Fe	Coal	C
Nickel	Ni	Zinc	Zn

Geology by D.K. Norris, 1980

NOTE

Structure and stratigraphy in Kandik River area are poorly known and are oversimplified

Compiled by D.K. Norris from Geological Survey of Canada Maps 1514A through 1520A with modifications due to contributions from J. Dixon, D.J. McIntyre, D.K. Norris, T.P. Poulton, A.R. Sweet and J. Utting, 1982

Geological cartography by D.J. Weller, Institute of Sedimentary and Petroleum Geology, Geological Survey of Canada

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Base map from part of MCR25 1/1,000,000 scale map published by the Surveys and Mapping Branch, 1972

Copies of the topographical edition of this map at a scale of 1:1,000,000 may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, Canada, K1A 0E9

Magnetic declination 1983 varies from 37°14.7' easterly at centre of west edge to 37°52.0' easterly at centre of east edge. Mean annual change 6.6' westerly

Elevations in feet above mean sea level

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MAP 1581A
GEOLOGY

GEOLOGY OF THE NORTHERN YUKON AND NORTHWESTERN DISTRICT OF MACKENZIE

Scale 1:500 000

Kilometres 12 0 12 24 36 Kilometres

Lambert Conformal Conic Projection
Standard Parallels 61° 40' N and 68° 20' N

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MAP 1581A
GEOLOGY OF THE NORTHERN YUKON AND NORTHWESTERN DISTRICT OF MACKENZIE

1581A

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