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
HOLOCENE

- **Qf** — *Fluviatile silt, sand, and gravel, in part with cover of organic deposits*
- **Ql** — *Lacustrine deposits with minor fluviatile deposits; clay, silt, sand, and gravel, mostly with cover of organic deposits*

MESOZOIC

CRETACEOUS
LOWER AND UPPER CRETACEOUS
EAGLE PLAIN FORMATION (Kwr - Kcc1)

- **Kcc1** — *Sandstone, fine- to medium-grained, light grey; siltstone and shale; alluvial and deltaic*
- **Kb** — *Shale, dark grey; siltstone, dark brown; marine*
- **Kfb** — *Sandstone, fine grained, light grey; shale, dark grey; marine*
- **Kwr** — *Shale, dark grey; siltstone, dark brown; marine*

LOWER CRETACEOUS

- **KRR** — *RAT RIVER FORMATION: sandstone, pale brownish grey, conglomeratic; shale, dark grey; marine*
- **KMG** — *MOUNT GOODENOUGH FORMATION: shale, siltstone, and sandstone; marine*
- **KBI** — *BIEDERMAN ARGILLITE: argillite, siltstone, and sandstone; turbiditic*
- **KMC** — *MARTIN CREEK FORMATION: sandstone, shale, and coal; marine and nonmarine; may include younger Neocomian clastic rocks on west flank of Richardson Mountains*

The new formation names Martin Creek, Mount Goodenough and Rat River are after J.A. Jeletzky (in press)

JURASSIC AND CRETACEOUS
JURASSIC AND LOWER CRETACEOUS

- **JKNB** — *NORTH BRANCH FORMATION: sandstone, light grey, conglomeratic, glauconitic; shale and siltstone; marine*
- **JKH** — *HUSKY FORMATION: shale, siltstone, and ironstone; marine*

TRIASSIC
UPPER TRIASSIC

- **Ts** — *Sandstone, light grey, fine grained; limestone, light grey; marine*

PALEOZOIC

PERMIAN
LOWER PERMIAN

- **PJC2** — *JUNGLE CREEK FORMATION: sandstone, very fine-to fine-grained, calcareous; dolomite, microcrystalline to fine-crystalline, brownish grey; siltstone, dolomitic*

CARBONIFEROUS
UPPER CARBONIFEROUS
ETTRAIN FORMATION (CE1 - CE2)

- **CE2** — *Upper part: limestone, light grey, skeletal, resistant; marine*
- **CE1** — *Lower part: limestone, light grey, skeletal; dolomite, silty, recessive; marine*
- **CE** — *ETTRAIN FORMATION: undivided (in structure section 4 only)*
- **Cb** — *Sandstone, brown weathering; conglomerate; limestone, skeletal; marine*

LOWER AND UPPER CARBONIFEROUS

- **CHR** — *HART RIVER FORMATION: limestone, dolomitic, skeletal-micritic; dolomite, calcareous, silty; marine. Includes Chance Sandstone Member; may include Cb at headwaters of Eagle River*

LOWER CARBONIFEROUS

- **CT** — *TUTTLE FORMATION: conglomerate and sandstone, commonly loosely consolidated, locally carbonaceous; fluviatile*
- **CF** — *FORT LAKE SHALE: shale, greyish black, rusty weathering, nodular; sandstone, light grey, fine grained; marine*

The new formation name Tuttle is after D.C. Pugh (in press)

DEVONIAN
UPPER DEVONIAN

- **Dus** — *Shale, dark grey, rusty weathering, nodular; sandstone, fine grained; marine*
- **Dss** — *Sandstone, fine grained, light grey; shale, dark grey, rusty weathering; marine*

IMPERIAL FORMATION (DI1 - DI2)

- **DI2** — *Upper part: sandstone, fine grained, lithic, dark grey; siltstone, dark grey*
- **DI1** — *Lower part: shale, dark grey, rusty weathering; siltstone, dark grey*
- **DI** — *IMPERIAL FORMATION: undivided (in structure section 4 only)*
- **DCA** — *CANOL FORMATION: shale, black, siliceous; marine*

LOWER AND MIDDLE DEVONIAN

- **DO** — *OGILVIE FORMATION: limestone, fine grained, dark grey, variably dolomitized; marine; may include Gossage Formation. (Structure section 4 only)*
- **DMI** — *MICHELLE FORMATION: shale, black, calcareous; limestone and dolomite, fine grained, black, orange-brown weathering; marine. (Structure section 4 only)*

CAMBRIAN TO DEVONIAN
UPPER CAMBRIAN TO LOWER DEVONIAN
ROAD RIVER FORMATION (€DR0-€DR4)

- **€DR4** — *Shale and limestone, black, graptolitic; marine*
- **€DR3** — *Siltstone, medium grey, platy; limestone, dark grey*
- **€DR2** — *Sharpstone breccia, heterogeneous, commonly with limestone and chert clasts; turbiditic*
- **€DR1** — *Shale and limestone, black, graptolitic; marine*
- **€DR0** — *Shale, black, calcareous; limestone, black; marine*
- **€DR** — *ROAD RIVER FORMATION: undivided; may include Michelle Formation*
- **€Db** — *Limestone, dolomite, and shale; marine. (Structure section 4 only)*

€DR and €Db are facies equivalents

CAMBRIAN
MIDDLE CAMBRIAN

- **€sc** — *SLATS CREEK FORMATION: sandstone, fine grained, medium grey; siltstone, brown weathering; marine*

LOWER CAMBRIAN

- **€I** — *ILLTYD FORMATION: limestone, fine crystalline, dark grey; marine. (Subsurface only)*

The new formation names Illtyd and Slats Creek are after W.H. Fritz (in press)

PROTEROZOIC

HELIKIAN

- **Pu** — *Siltstone, quartzite and dolomite, undivided; marine? (Structure section 4 only)*

? APHEBIAN

- **HQ** — *QUARTET GROUP: phyllite, black, feldspathized; breccia, heterolithic. (Structure section 4 only)*

Outcrop or felsenmeer examined (bedding not measurable) .... ×
Geological boundary (defined, approximate)
Bedding, tops known (horizontal, inclined, overturned)
Bedding, estimated from aircraft (inclined)
Fault, extension (solid circle indicates downthrow side; defined, approximate)
Fault, undesignated (arrow indicates relative movement)
Fault, contraction (teeth indicate upthrust side)
Anticline (arrow indicates plunge; defined, approximate)
Syncline (defined, approximate)
Anticline (asymmetrical; long arrow points in direction of dip of axial surface)
Fossil locality (GSC catalogue number; Calgary, Ottawa) C-27162, 55220
Stratigraphic section 1
Mineral occurrence .... Zn ×
Borehole (dry and abandoned, suspended gas, suspended oil, suspended gas and oil)
Paleontological age on fossil locality (determined, indeterminate); for explanation of geological time symbols, see Geotectonic Correlation Chart, 1532A .... KH-Al, i
Tentative formational assignment .... ?KMG
Line of section .... ⑤ ⑤

MINERALS

Lead .... **Pb** *Zinc* .... **Zn**

Geology by D.K. Norris, 1975

SCHEDULE OF WELLS

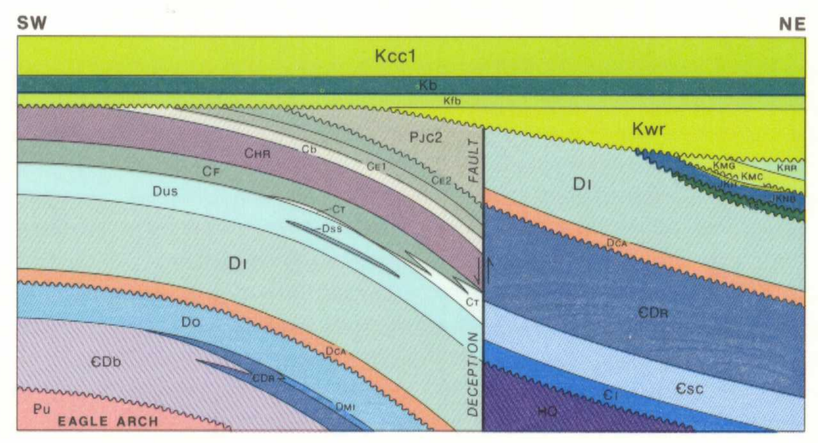
1. *Western Minerals Chance No. 1; T.D. 2636 m*
2. *Socony Mobil WM E. Porcupine R. YT K-56; 2591 m*
3. *Socony Mobil WM Chance YT G-8; T.D. 1579 m*
4. *Socony Mobil WM Ellen YT C-24; T.D. 2174 m*
5. *Socony Mobil WM S. Tuttle YT N-5; T.D. 3513 m*
6. *Socony Mobil WM W. Parkin YT D-51; T.D. 1509 m*
7. *Socony Mobil WM Birch YT B-34; T.D. 1650 m*
8. *Canoe River Chance YT J-19; T.D. 1446 m*
9. *Canoe River E. Chance C-18; T.D. 1541 m*
10. *SOBC WM Schaeffer Ck. YT O-22; T.D. 3162 m*
11. *SOBC WM E. Porcupine YT I-13; T.D. 2440 m*
12. *Chevron SOBC WM W. Parkin YT C-33; T.D. 1257 m*
13. *Chevron SOBC WM E. Pine Ck. YT O-78; T.D. 948 m*
14. *Chevron SOBC WM N. Parkin YT D-61; T.D. 3353 m*
15. *Chevron SOBC WM Birch YT E-53; T.D. 684 m*
16. *Chevron SOBC WM E. Porcupine YT F-18; T.D. 2051 m*

Note: Well listing is chronological in order of spudding date

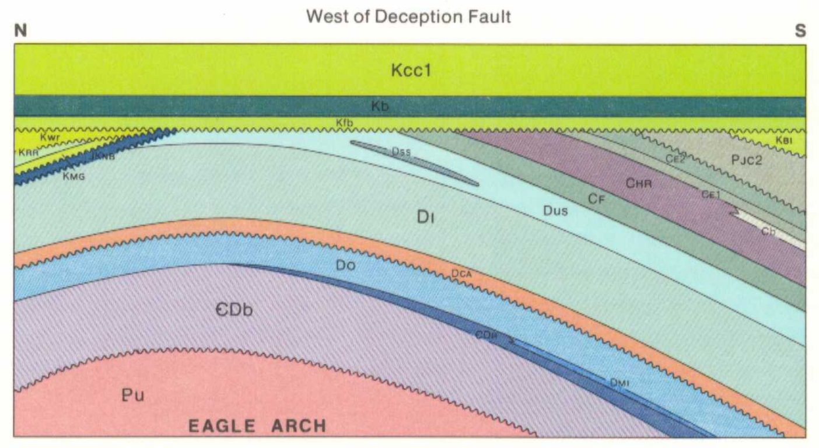
ACKNOWLEDGMENTS

Geological synthesis based on field observations and/or paleontological determinations made by the following geologists, listed alphabetically, with years of field activity where applicable: Geological Survey of Canada - E.W. Bamber, 1962; W.A. Bell, W.W. Brideaux, M.J. Copeland, O.L. Hughes, 1962; J.A. Jeletzky; D.C. McGregor; E.W. Mountjoy, 1962; B.S. Norford, 1962; D.K. Norris, 1962, 1973; R.A. Price, 1962; G.R. Turnquist, 1962. Industry - Chevron Standard Co. Ltd., 1962; Imperial Oil Co. Ltd., 1961; Western Minerals Co. Ltd., 1961. The Open University - D.E. Jackson; University of Toronto - J. B. Waterhouse.

SCHEMATIC STRATIGRAPHIC RELATIONSHIPS



West of Deception Fault



Unconformity ....

Geological cartography by M.D. Wallace, Institute of Sedimentary and Petroleum Geology, Geological Survey of Canada

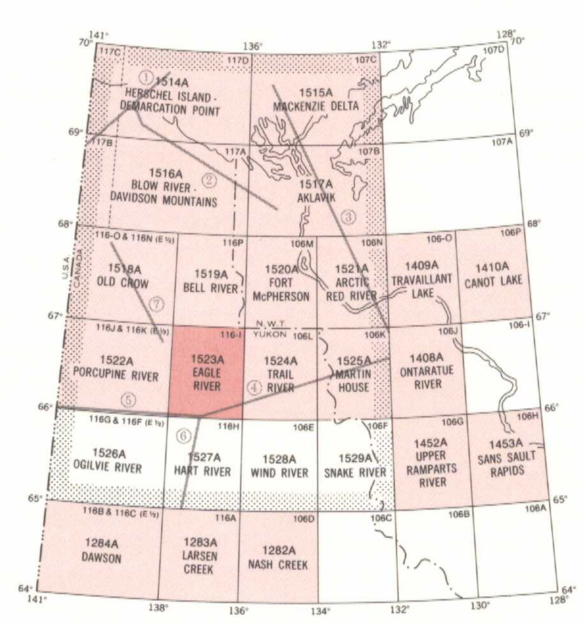
Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Base map at the same scale published by the Surveys and Mapping Branch in 1974

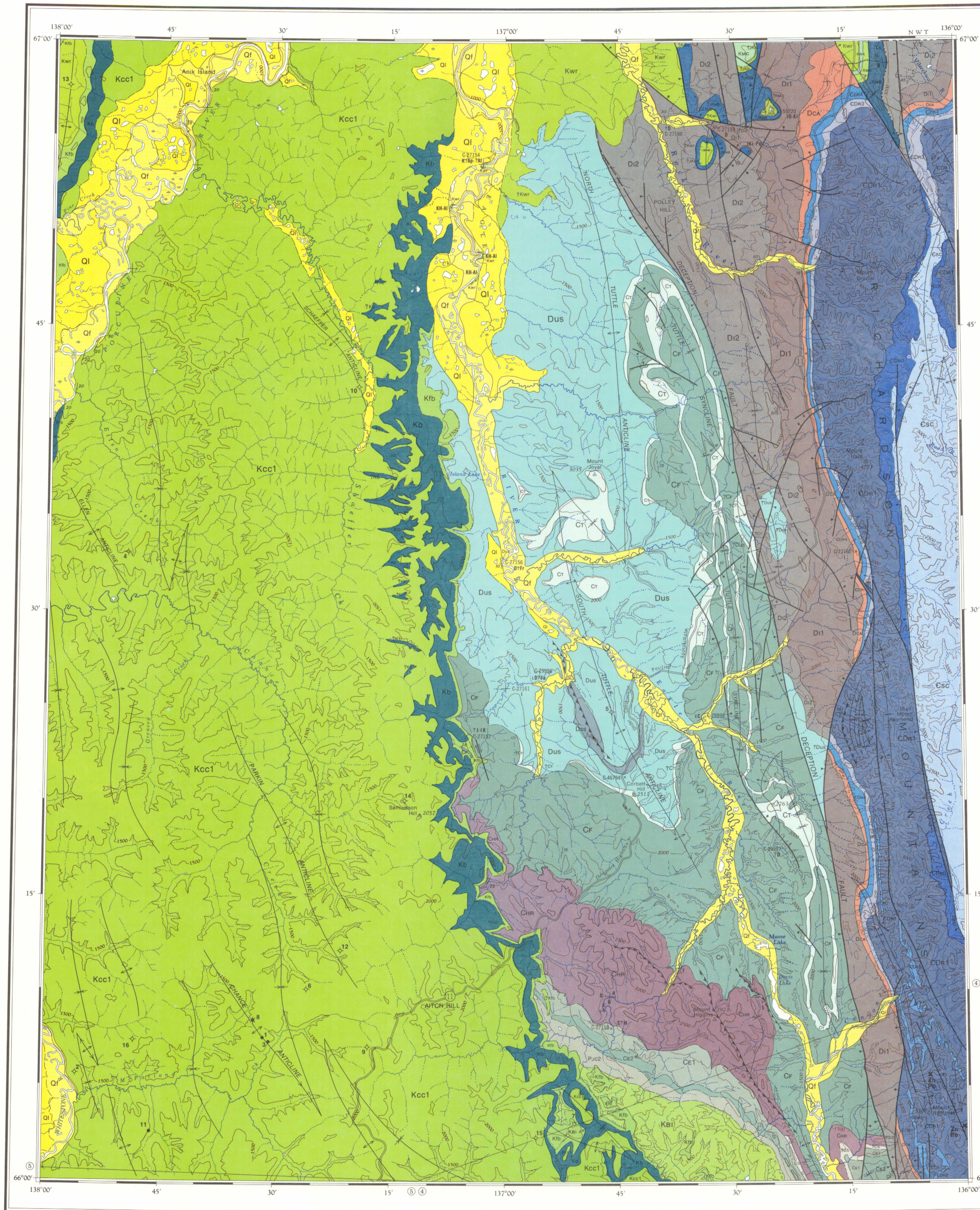
Copies of the topographical edition of this map may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa

Magnetic declination 1981 varies from 35°16.0′ easterly at centre of west edge to 35°48.8′ easterly at centre of east edge. Mean annual change 6.0′ westerly

Elevations in feet above mean sea level



NTS REFERENCE AND INDEX TO GSC MAPS SHOWING LINES OF SECTION. FOR STRUCTURE SECTIONS, SEE SHEET 1530A ('Operation Porcupine' outlined by shaded area)



Copies of this map may be obtained from the Geological Survey of Canada:
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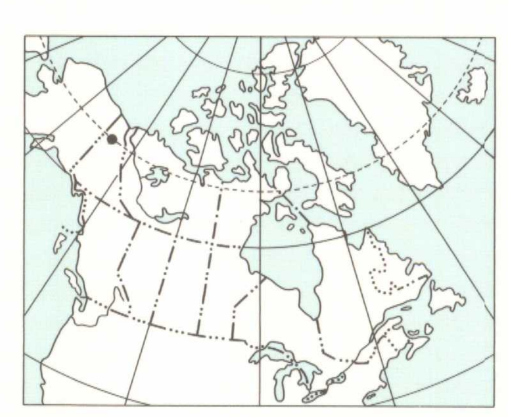

INDEX MAP

MAP 1523 A
GEOLOGY

EAGLE RIVER

YUKON TERRITORY

Scale 1:250,000

Kilometres 6 0 6 12 18 Kilometres
Miles 4 0 4 8 Miles

Transverse Mercator Projection

THE STRUCTURE SECTION DIAGRAM AND GEOTECTONIC CORRELATION CHART FOR THE AREA COVERED BY MAPS 1514A TO 1529A ARE AVAILABLE SEPARATELY AS SHEETS 1530A AND 1532A

MAP 1523A
EAGLE RIVER
YUKON TERRITORY

Canada