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; undivided*

**Qg** — *Gypsiferous intrusion in Richardson Fault Array*

## MESOZOIC

### CRETACEOUS
#### LOWER CRETACEOUS

**KAR** — *ARCTIC RED FORMATION: shale, silty, concretionary, dark grey; siltstone, medium to dark grey; concretionary, marine. May include Martin House Formation.*

**KRR** — *RAT RIVER FORMATION: sandstone, pale brownish grey; conglomerate, sandstone-quartzite- and chert-pebble; marine*

**KMH** — *MARTIN HOUSE FORMATION: siltstone and shale, glauconitic, concretionary; marine*

**KMG** — *MOUNT GOODENOUGH FORMATION: shale, siltstone, and sandstone; marine*

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

### JURASSIC AND CRETACEOUS
#### UPPER JURASSIC AND LOWER CRETACEOUS

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

### TRIASSIC
#### UPPER TRIASSIC

**Ts** — *Limestone, skeletal; marine*

## PALEOZOIC

### CARBONIFEROUS
#### LOWER CARBONIFEROUS

**Cf** — *Shale, silty, concretionary, dark grey; marine and nonmarine ?*

**CT** — *TUTTLE FORMATION: conglomerate and sandstone, commonly loosely consolidated, locally carbonaceous; fluviatile*

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

### DEVONIAN
#### UPPER DEVONIAN

**Dus** — *Shale, dark grey, rusty weathering, nodular; siltstone; marine*

**Di2** — *IMPERIAL FORMATION (Di1, 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*

**DCA** — *CANOL FORMATION: shale, black, siliceous; marine*

#### MIDDLE DEVONIAN

**DHu** — *HUME FORMATION: limestone and shale; marine.(Subsurface only)*

#### LOWER AND MIDDLE DEVONIAN

**DO** — *OGILVIE FORMATION: limestone, black, argillaceous; shale, calcareous; marine*

**DG** — *GOSSAGE FORMATION: limestone and dolomite, fine-crystalline to aphanitic, brown; marine.(Structure section 4 only)*

### CAMBRIAN TO DEVONIAN
#### UPPER CAMBRIAN TO LOWER DEVONIAN

**ЄDR4** — *ROAD RIVER FORMATION (ЄDR0 - ЄDR4): Shale and limestone, black, graptolitic; marine*

**ЄDR3** — *Siltstone, medium grey, platy; limestone, dark grey*

**ЄDR2** — *Sharpstone breccia, heterogeneous, commonly with limestone and chert clasts; turbiditic*

**ЄDR1** — *Shale and limestone, black, graptolitic; marine*

**ЄDR0** — *Shale, black, calcareous; limestone, black; marine*

**ЄDR** — *ROAD RIVER FORMATION: undivided (in structure section 4 only)*

**ЄDb** — *Limestone, dolomite and shale, undivided; marine*

*ЄDR and ЄDb are facies equivalents*

### CAMBRIAN
#### MIDDLE CAMBRIAN

**ЄSC** — *SLATS CREEK FORMATION: sandstone, fine grained, medium grey; siltstone, brown weathering*

#### LOWER CAMBRIAN

**Cl** — *ILLTYD FORMATION: limestone, fine-crystalline, dark grey; marine*

*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, feldspathized, black; breccia, heterolithic*

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*Outcrop or felsenmeer examined (bedding not measurable)*
*Geological boundary (defined, approximate)*
*Bedding, tops known (horizontal, inclined)*
*Bedding, estimated from aircraft (horizontal, inclined)*
*Fault, extension (solid circle indicates downthrow side; defined, approximate)*
*Fault, undesignated (defined, approximate)*
*Fault (arrow indicates relative movement)*
*Fault, contraction (teeth indicate upthrust side)*
*Anticline (arrow indicates plunge)*
*Syncline (arrow indicates plunge)*
*Drumlins, drumlinoid ridges (direction of ice movement inferred, not inferred)*
*Fossil locality (GSC catalogue number; Calgary, Ottawa)* — C-24269, 55142
*Stratigraphic section* — 9
*Stratigraphic type section* — 3
*Mineral occurrence* — Fe, U
*Borehole (dry and abandoned)*
*Breccia pipe*
*Paleontological age on fossil locality (determined); for explanation of geological time symbols, see Geotectonic Correlation Chart, 1532A* — KAI
*Apparent radiometric age (millions of years)* — 830 Ma
*Tentative formational assignment* — ?DCA
*Line of section* — ④ ④

### MINERALS

*Iron* ..... **Fe** *Uranium* ..... **U**

*Geology by D.K. Norris, 1974*

### SCHEDULE OF WELLS

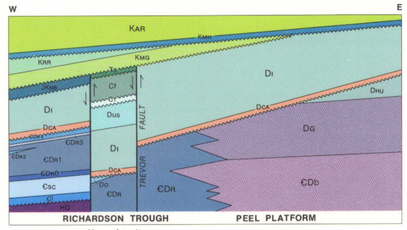
1. *Shell Peel River YT J-21; T.D. 1219 m*
2. *Shell Peel River YT K-76; T.D. 1387 m*
3. *Shell Peel River YT L-1; T.D. 1835 m*
4. *Shell Peel River YT I-21; T.D. 2073 m*
5. *Shell Peel River YT L-19; T.D. 1981 m*
6. *Shell Peel River YT B-6; T.D. 430 m*
7. *Shell Peel River YT B-6A; T.D. 1067 m*
8. *ICE Satah River YT G-72; T.D. 2286 m*
9. *Shell Peel River YT K-9; T.D. 1555 m*
10. *Shell Peel River YT H-59; T.D. 1632 m*
11. *Pacific et al. Peel YT F-37; T.D. 3368 m*
12. *Shell Trail River YT H-37; T.D. 3722 m*
13. *Gulf-Mobil Caribou YT N-25; T.D. 3600 m*
14. *Mobil Gulf Peel YT H-71; T.D. 3392 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 - W.A. Bell; W.W. Brideaux; W.H. Fritz, 1973; O.L. Hughes, 1962, 1972; J.A. Jeletzky; D.C. McGregor; E.W. Mountjoy, 1962; B.S. Norford, 1962; A.W. Norris, 1962; D.K. Norris, 1962, 1973; R.A. Price, 1962; R.M. Procter, 1962; G.C. Taylor, 1962; E.T. Tozer, R.K. Wanless. University of Alberta - C.R. Stelck, 1943.

### SCHEMATIC STRATIGRAPHIC RELATIONSHIPS




*Unconformity*

*Geological cartography by G.S. Whitman, Institute of Sedimentary and Petroleum Geology, Geological Survey of Canada*

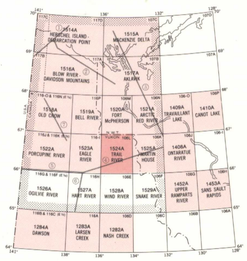
*Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada*

*Base map at the same scale published by the Surveys and Mapping Branch in 1959*

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

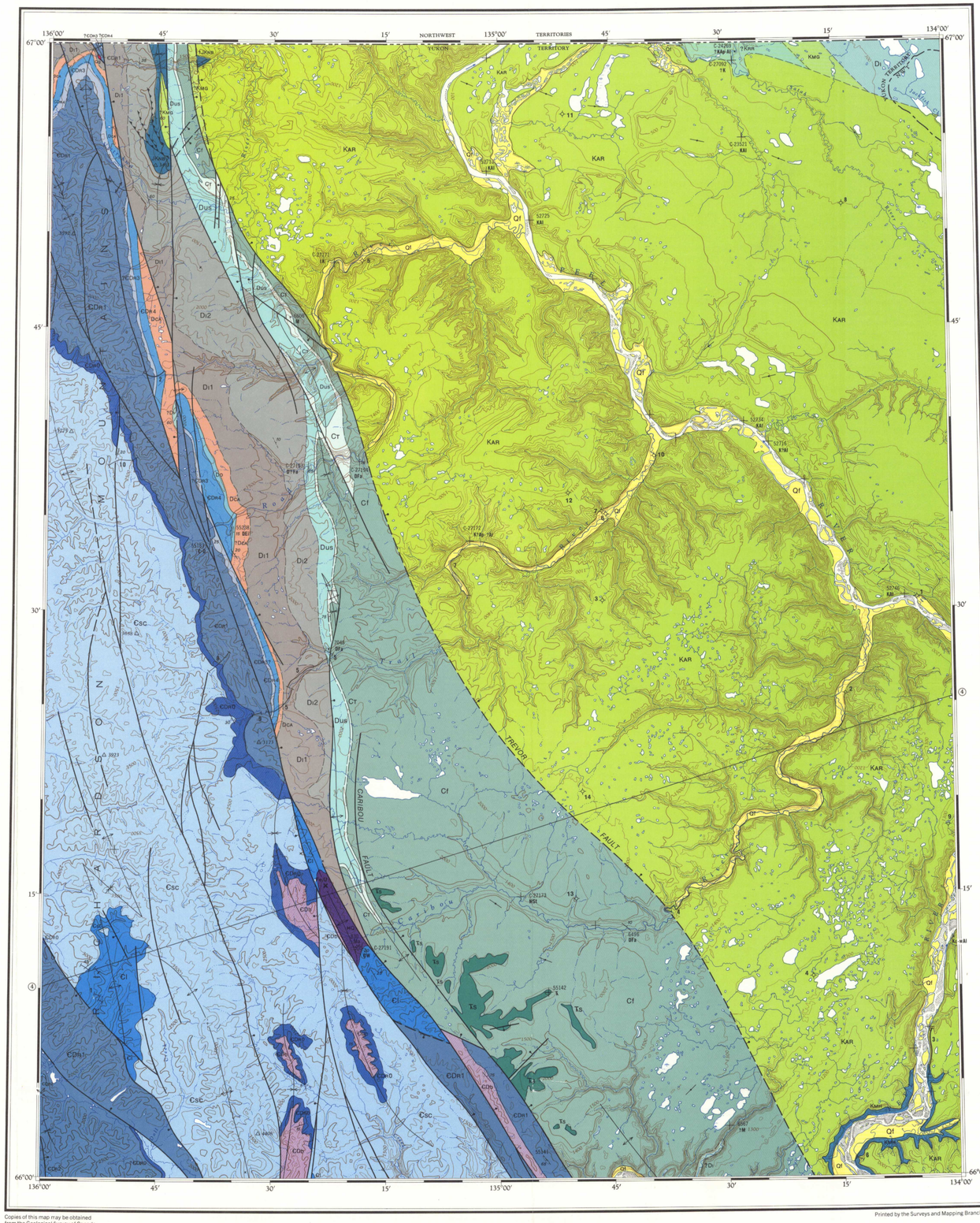
*Magnetic declination 1981 varies from 35°48.8' easterly at the centre of west edge to 35°42.5' easterly at centre of east edge. Mean annual change 6.8' westerly*

*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:
601 Booth Street, Ottawa, Ontario K1A 0E8
3303 - 33rd Street N.W., Calgary, Alberta T2L 2A7

Printed by the Surveys and Mapping Branch, 1981

INDEX MAP

MAP 1524A

GEOLOGY

# TRAIL RIVER

YUKON-NORTHWEST TERRITORIES

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 1524A
TRAIL RIVER
YUKON-NORTHWEST TERRITORIES

1524A

Canada