GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

## LEGEND

**CENOZOIC**

QUATERNARY

Qal — *Alluvial sands and silts of Laird River*

**MESOZOIC**

CRETACEOUS

UPPER CRETACEOUS

uKw — *WAPITI FORMATION: banded feldspathic sandstone; coal*

uKK — *KOTANEELEE FORMATION: dark grey concretionary shale; mudstone; grey sandstone*

uKD — *DUNVEGAN FORMATION: carbonaceous sandstone and pebble conglomerate; dark grey shale; siltstone*

LOWER CRETACEOUS

FORT ST. JOHN GROUP: *(includes* lKG *to* lKSU*)*

lKFSJ — FORT ST. JOHN GROUP, *undivided: shale, siltstone*

lKSU — *SULLY FORMATION: dark grey, concretionary shale, gypsiferous in part*

lKSK — *SIKANNI FORMATION: greenish grey sandstone, siltstone, shale*

lKS — *Sandstone, greenish grey; siltstone; shale*

lKL — *LEPINE FORMATION: concretionary and rusty weathering shale*

lKSh — *Shale, concretionary, gypsiferous and rusty weathering (equivalent to LEPINE and SULLY FORMATIONS)*

lKSC — *SCATTER FORMATION: sandstone, greenish grey; siltstone*

lKG — *GARBUTT FORMATION: shale, grey, concretionary and rusty weathering; basal pebble conglomerate and grey sandstone*

**PALEOZOIC**

PERMIAN

Pf — *FANTASQUE FORMATION: grey, banded chert; grey sandstone; mudstone (pattern in structure sections)*

CARBONIFEROUS AND PERMIAN

*MATTSON FORMATION:*

CPMu — *Upper part: grey sandstone; limestone; shale*

CPMm — *Middle part: massive bedded, grey to brown sandstone*

CPMl — *Lower part: thinly bedded grey sandstone; shale; coal*

MISSISSIPPIAN

Mf — *FLETT FORMATION: grey limestone; shale*

Mc — *CLAUSEN FORMATION: black shale*

My — *YOHIN FORMATION: sandstone*

Mb — *BANFF FORMATION: shale; limestone (in structure sections only)*

Me — *EXSHAW FORMATION: black shale (in structure sections only)*

DEVONIAN AND MISSISSIPPIAN

DMbr — *BESA RIVER FORMATION: dark grey shale; siltstone*

DEVONIAN

UPPER DEVONIAN

uDc — *Undivided TROUT RIVER, TETCHO AND KOTCHO FORMATIONS (in structure sections only)*

uDfs — *FORT SIMPSON FORMATION: shale (in structure sections only)*

MIDDLE DEVONIAN

mDm — *MANETOE FORMATION: dolomite, coarsely crystalline, veggy*

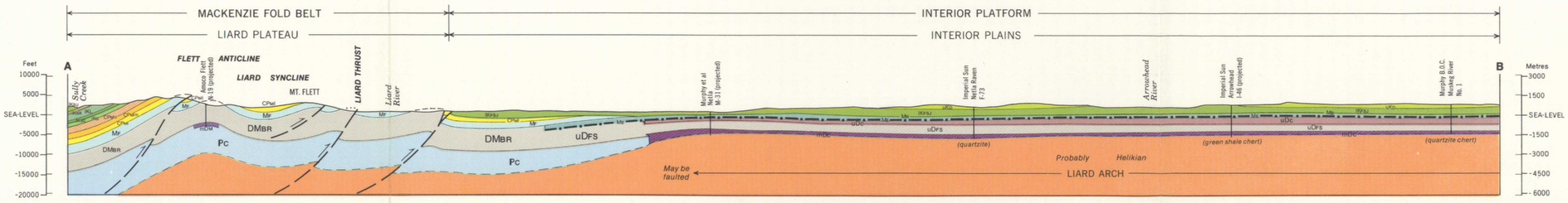
mDa — *ARNICA FORMATION: dolomite, finely crystalline*

mDc — *Undivided ARNICA, MANETOE, LANDRY, HEADLESS, NAHANNI, CHINCHAGA, PINE POINT, SULPHUR POINT and HORN RIVER FORMATIONS (in structure sections only)*

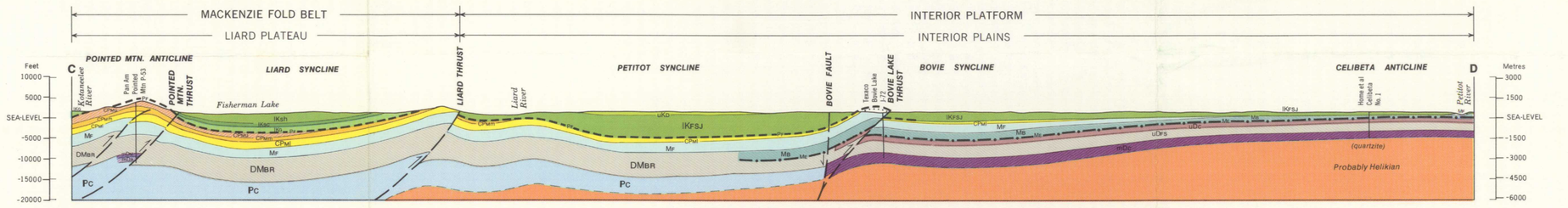
MIDDLE DEVONIAN AND OLDER

Pc — *Undivided carbonate formations (in structure sections only)*

*Rock outcrop*
*Geological boundary (approximate, assumed)*
*Bedding, measured (horizontal, inclined, vertical)*
*Bedding estimated (horizontal, inclined, vertical)*
*Fault*
*Normal fault (hachures on hanging wall)*
*Thrust, reverse fault (teeth on hanging wall)*
*Anticline (arrow indicates plunge)*
*Syncline (arrow indicates plunge)*
*Location of measured section*
*Well: gas, abandoned*




Structure section along A-B




Structure section along C-D


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

INDEX MAP

*Geology by W.B. Brady, R.J.W. Douglas, P. Harker, D.K. Norris, D.F. Stott, 1957; C.O. Hage, 1945; D.F. Stott, 1972*

*Compilation by R.J.W. Douglas and D.K. Norris, 1959, 1974*

*Geological cartography by G.W. Fouchard 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 Army Survey Establishment in 1952-58*

*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 1975 varies from 32°20′ easterly at centre of west edge to 32°08′ easterly at centre of east edge. Mean annual change 5.6′ westerly*

*Elevations in feet above mean sea-level*

Printed by the Surveys and Mapping Branch, 1976

MAP 1379A

GEOLOGY

# FORT LIARD

DISTRICT OF MACKENZIE

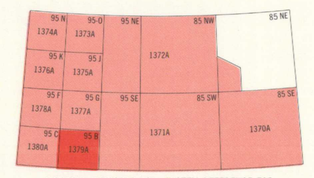
Scale 1:250,000

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

Universal Transverse Mercator Projection








NATIONAL TOPOGRAPHICAL SYSTEM REFERENCE FOR GEOLOGICAL MAPS OF OPERATION MACKENZIE

MAP 1379A
FORT LIARD
DISTRICT OF MACKENZIE