

CENOZOIC

- QUATERNARY
- Q Alluvium
  - Qm Thick moraine deposits forming prominent topography

MESOZOIC

- CRETACEOUS
- UPPER CRETACEOUS
- Kbt "Bituminous zone": black bituminous shale; bedded, yellow jarosite; local earthy hematite; pale grey clay; local basal ironstone-peggle and shale-chip conglomerate
- LOWER CRETACEOUS
- Kb "Bentonitic zone": black, soft, plastic shale; fossiliferous, orange, concretionary ironstone beds
  - Ks "Silty zone": upper division-argillaceous siltstone and mudstone; lower division - light grey, friable sandstone and coal

PALEOZOIC

- DEVONIAN
- MIDDLE DEVONIAN
- Dhi HARE INDIAN FORMATION: black, fissile shale at base; green-grey shale above
  - Dh HUME FORMATION: thin-bedded, grey limestone; very fossiliferous; subordinate dark grey shale
- LOWER (?) AND MIDDLE DEVONIAN
- Db BEAR ROCK FORMATION: bedded limestone in upper part; calcareous and gypsiferous dolomite and limestone solution breccia in lower part
- CAMBRIAN AND ORDOVICIAN
- UPPER CAMBRIAN AND LOWER ORDOVICIAN
- RONNING GROUP
- 6Or2b Unit 2b: grey and buff, thick-bedded dolomite; drusy quartz; stromatolitic and oolitic chert
  - 6Or2a Unit 2a: pale grey dolomite interbedded with greyish orange dolomite

- Rock outcrop (observed from air or air photo) .....
- Rock outcrop visited by helicopter .....
- Geological boundary (defined, approximate, assumed; includes contacts extended by air photo interpretation) .....
- Bedding tops known (horizontal, inclined) .....
- Bedding tops known, estimated from air photos or from aircraft (horizontal, dip 5-15) .....
- Fault (defined, approximate; solid circle indicates downthrown side) .....
- Anticline (defined, approximate; arrow indicates direction of plunge) .....
- Syncline (defined; arrow indicates direction of plunge) .....
- Fossil locality (GSC catalogue number where collection taken) .....
- Stratigraphic section studied .....

#### Stratigraphic Section References

- T.P. Channey ..... C85-68
- W.S. MacKenzie ..... MN-13
- C.J. Yorath ..... TB-21

Geology by H.R. Balkwill, C.J. Yorath, T.P. Channey, and W.S. MacKenzie, 1968

Compiled by H.R. Balkwill and C.J. Yorath, 1969

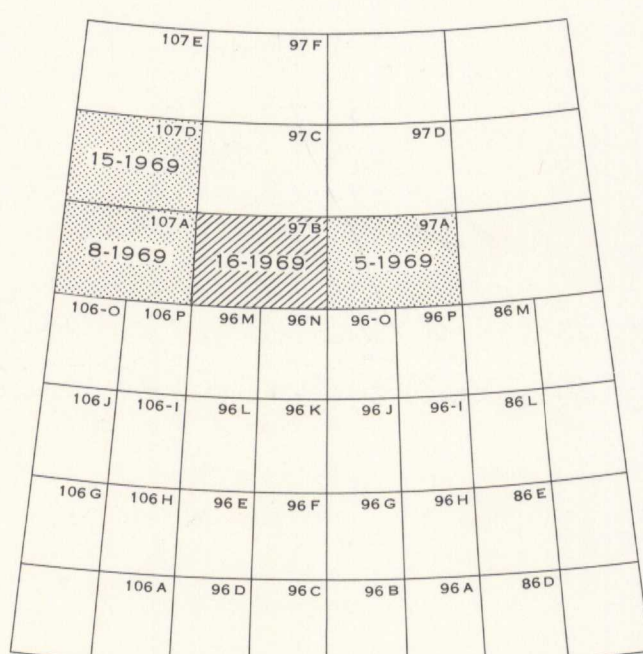
To accompany GSC Paper 69-10, by H.R. Balkwill and C.J. Yorath

Geological cartography by the Institute of Sedimentary and Petroleum Geology, Geological Survey of Canada

Topographic base-map at the same scale published by the Mapping and Charting Establishment, Department of National Defence, 1967

Magnetic declination 1970 varies from 41° 03' easterly at centre of west edge to 42° 04' easterly at centre of east edge. Mean annual change 7.5' westerly

Elevations in feet above mean sea - level



National Topographical System designations indicate other quadrangles mapped geologically during Operation Norman

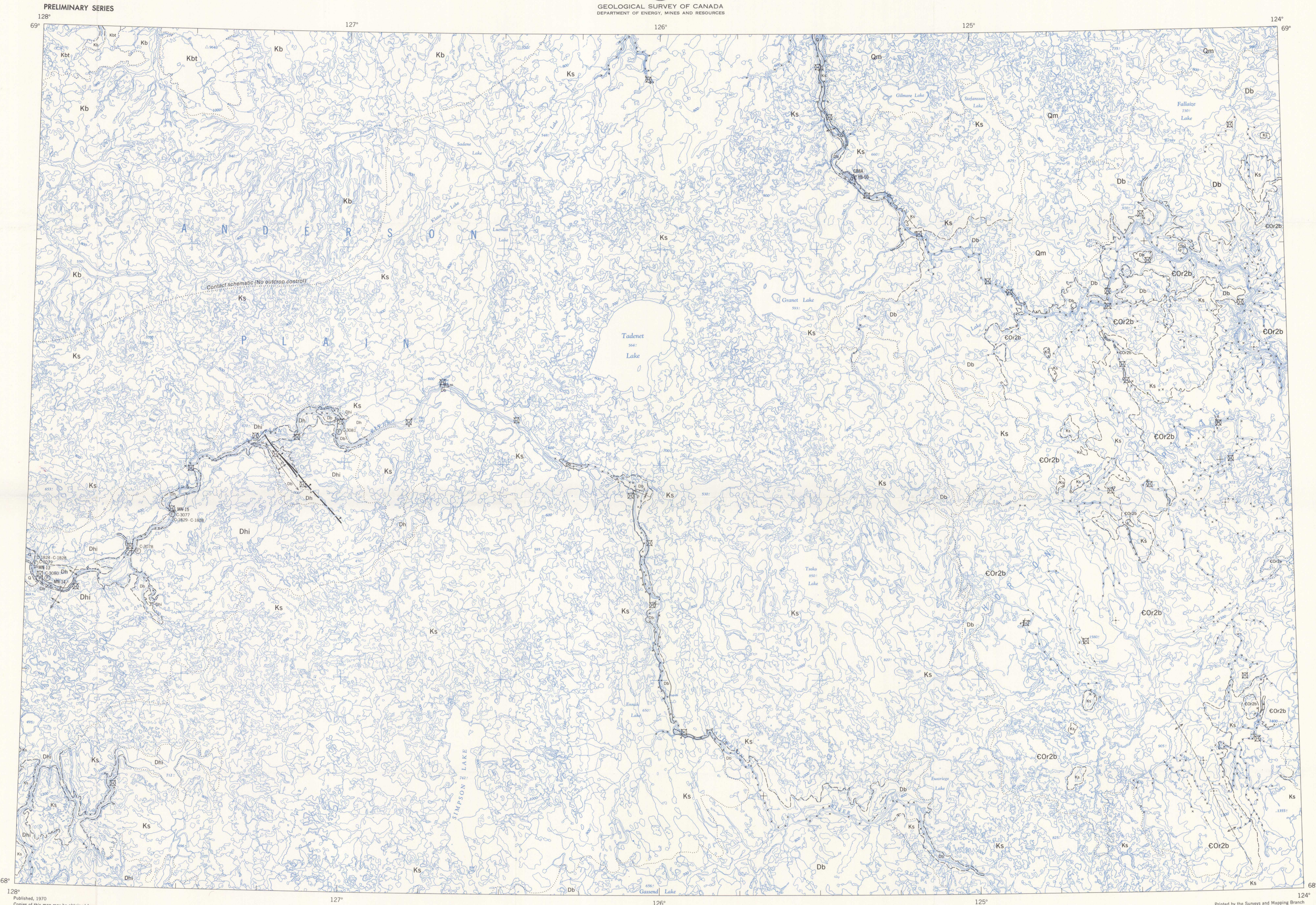


INDEX MAP

G 3401, C5  
1956  
G4  
omvsc  
c.1  
6961-91



GEOLOGICAL SURVEY OF CANADA  
DEPARTMENT OF ENERGY, MINES AND RESOURCES



MAP 16-1969

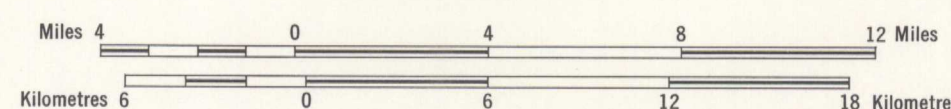
PAPER 69-10

GEOLOGY

## SIMPSON LAKE

DISTRICT OF MACKENZIE

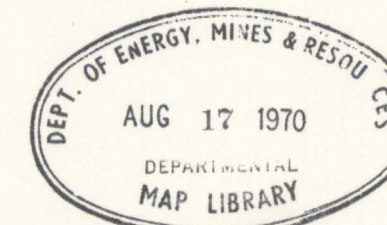
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MAP 16-1969  
SIMPSON LAKE  
DISTRICT OF MACKENZIE