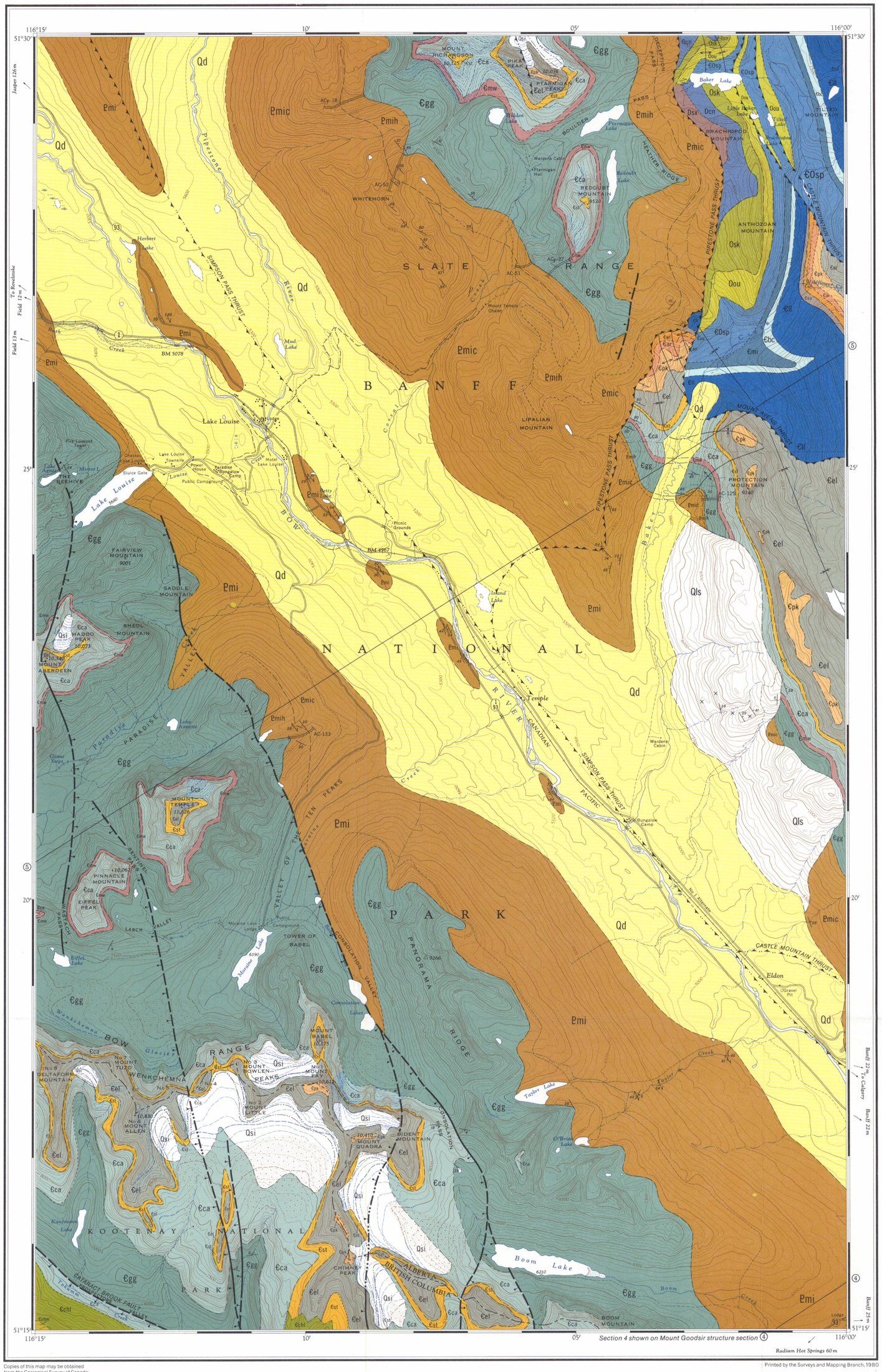
GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES



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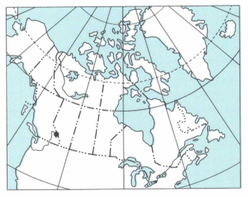

INDEX MAP

MAP 1482A

GEOLOGY

LAKE LOUISE

(East Half)

WEST OF FIFTH MERIDIAN

ALBERTA-BRITISH COLUMBIA

Scale 1:50,000

Kilometres 1 0 1 2 3 4 Kilometres

Miles 1 0 1 2 Miles

Transverse Mercator Projection

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NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS

Printed by the Surveys and Mapping Branch, 1980

LEGEND

CENOZOIC

QUATERNARY
PLEISTOCENE AND RECENT

- **Qsi** — *Snowfields and glaciers (boundaries replotted from vertical air photographs)*
- **Qd** — *Till, alluvium, colluvium; gravel, sand, silt (shown only where bedrock is extensively concealed)*
- **Qls** — *Landslide: large coherent blocks of Cambrian carbonate rocks*

PALEOZOIC

DEVONIAN
UPPER DEVONIAN
FAIRHOLME GROUP (Dcn-Dsx)

- **Dsx** — *SOUTHESK FORMATION: dolomite, massive to thick bedded, light to medium grey, finely to coarsely crystalline, some medium dark brownish grey dolomite; minor local breccia*
- **Dcn** — *CAIRN FORMATION: dolomite, massive, dark brownish grey and grey, medium crystalline, with Amphipora and stromatoporoid beds, dark grey (light grey weathering) limestone, dolomitic limestone and calcareous dolomite in the lower part; minor breccia and chert*

ORDOVICIAN

- **Osk** — *SKOKI FORMATION: dolomite, mainly grey, finely and very finely crystalline, partly siliceous, partly fossiliferous; minor chert*
- **Oou** — *OUTRAM FORMATION: limestone, mainly dense, nodular, cherty, with argillaceous, dolomitic, and siliceous tracery; dolomitized equivalents; minor shale, dark brown; rhythmically bedded*

CAMBRIAN AND ORDOVICIAN

- **€Osp** — *SURVEY PEAK FORMATION: interbedded limestone, partly dense, partly fragmental, partly very silty, grading to calcareous siltstone; and shale, greenish grey and grey, calcareous; algal masses near the top; basal shale, calcareous, pale greenish grey weathering*

CAMBRIAN
UPPER CAMBRIAN

- **€mi** — *MISTAYA FORMATION: limestone, partly dense, partly fragmental, with prominent algal stromatolites; dolomitized equivalents; minor chert*
- **€bc** — *BISON CREEK FORMATION: shale, greenish grey; interbedded with limestone, mainly fragmental, partly altered to dolomite*
- **€ll** — *LYELL FORMATION: limestone, mainly dense with dolomite partings and mottling; partly laminated, partly silty and sandy; minor fragmental limestone; dolomitized equivalents; minor chert*
- **€su** — *SULLIVAN FORMATION: shale, calcareous, brownish grey and greenish grey, interbedded with limestone, mainly fragmental, partly oolitic; minor siltstone at the base*

MIDDLE AND UPPER CAMBRIAN

- **€wf** — *WATERFOWL FORMATION: limestone, mainly micritic with dolomitic partings and mottling; partly silty and sandy; dolomitized equivalents; minor siltstone and sandstone*

MIDDLE CAMBRIAN

- **€ar** — *ARCTOMYS FORMATION: shale, purple-red, green, and grey; siltstone, grey, yellow, dolomitic; dolomite, microcrystalline, flaggy orange weathering; mud cracks, salt crystal casts*

- **€chm** — *CHANCELLOR FORMATION (Middle part): interbedded cleaved limestone, slate and silty dolomite*

- **€pk** — *PIKA FORMATION: limestone, mainly micritic, flaggy, with partings of argillaceous dolomite; argillaceous limestone and calcareous shale near base; dolomitized equivalents*
- **€el** — *ELDON FORMATION: limestone, massive; micritic, grey dolomite-mottled; dolomitized equivalents*
- **€st** — *STEPHEN FORMATION: interbedded shale, grey to green; and limestone, partly dense, flaggy with dolomitic partings, partly fragmental; minor oolite*
- **€ca** — *CATHEDRAL FORMATION: limestone, massive, micritic, grey, dolomite-mottled; dolomitized equivalents*
- **€mw** — *MOUNT WHYTE FORMATION: shale, greenish grey; interbedded with siltstone, green to grey, and limestone, mainly fragmental, partly oolitic*

- **€chl** — *CHANCELLOR FORMATION (Lower part): cleaved argillaceous limestone with irregular interbeds of brown and greenish brown shale and brown argillaceous dolomite*

LOWER CAMBRIAN

- **€gg** — *GOG GROUP: mainly quartzite and quartzose sandstone, thickly bedded, white, grey, and red; minor thinly interbedded sandstone, siltstone and grey shale*

PROTEROZOIC

UPPER PROTEROZOIC (HADRYNIAN)
WINDERMERE SUPERGROUP

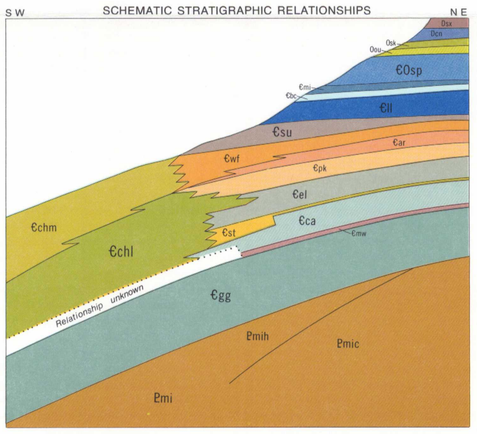
- **Ꝑmi** — *MIETTE GROUP: slate, grey, dark grey and green; feldspathic gritty sandstone and quartz-pebble conglomerate; quartz sandstone and siltstone*

- **Ꝑmih** — *HECTOR FORMATION: slate, grey, dark grey and green; feldspathic gritty sandstone and quartz-pebble conglomerate; quartz sandstone and siltstone*
- **Ꝑmic** — *CORRAL CREEK FORMATION: slate, grey, dark grey and green; feldspathic gritty sandstone and quartz-pebble conglomerate; quartz sandstone and siltstone; green and purple slate with beds of limestone flat-pebble conglomerate at top (Aitken, 1969)*

Position of change in facies (approximate)
Rock outcrop studied in the field
Geological boundary (defined, approximate, assumed)
Geological boundary (assumed projection under cover of younger deposits)
Bedding tops known (inclined, vertical, overturned)
Bedding tops unknown (inclined)
Cleavage (inclined)
Other fault (assumed, arrow indicates relative movement)
Thrust fault (teeth on upthrust side; approximate, assumed)
Thrust fault (assumed projection under cover of younger deposits)
Gravity fault (solid circle indicates dowthrown side; defined, approximate)
Gravity fault (assumed projection under cover of younger deposits)
Anticline (trace of axial surface; defined)
Syncline (trace of axial surface; defined)
Syncline (assumed projection under cover of younger deposits)
Stratigraphic section, locus of measurement (number refers to internal cataloguing system) studied by J.D. Aitken ..... AC AC-133
Line of section ..... ⑤ ⑤

Geology by R.A. Price, D.G. Cook, J.D. Aitken and E.W. Mountjoy based on studies of vertical air photographs and on ground and air observation by J.D. Aitken, H.R. Balkwill, D.G. Cook, E.W. Mountjoy and R.A. Price, 1964-67; area southwest of Bow River modified after Cook (1975)

SCHEMATIC STRATIGRAPHIC RELATIONSHIPS



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

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Approximate magnetic declination 1979, 21° 59.9′ East decreasing 5.3′ annually

Elevations in feet above mean sea level

Geological cartography by D.J. Walter, 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

REFERENCES

Aitken, J.D.: Documentation of the sub-Cambrian unconformity, Rocky Mountains Main Ranges, Alberta; Canadian Journal of Earth Sciences, v. 6, p. 193-200 (1969).

Cook, D.G.: Geology of the Main Ranges of the Rocky Mountains from Vermillion Pass to Blaeberry River and Bow Lake, British Columbia-Alberta; Geological Survey of Canada, Map 1368A (1975).

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MAP 1482A
LAKE LOUISE
(East Half)
ALBERTA-BRITISH COLUMBIA

1482A

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