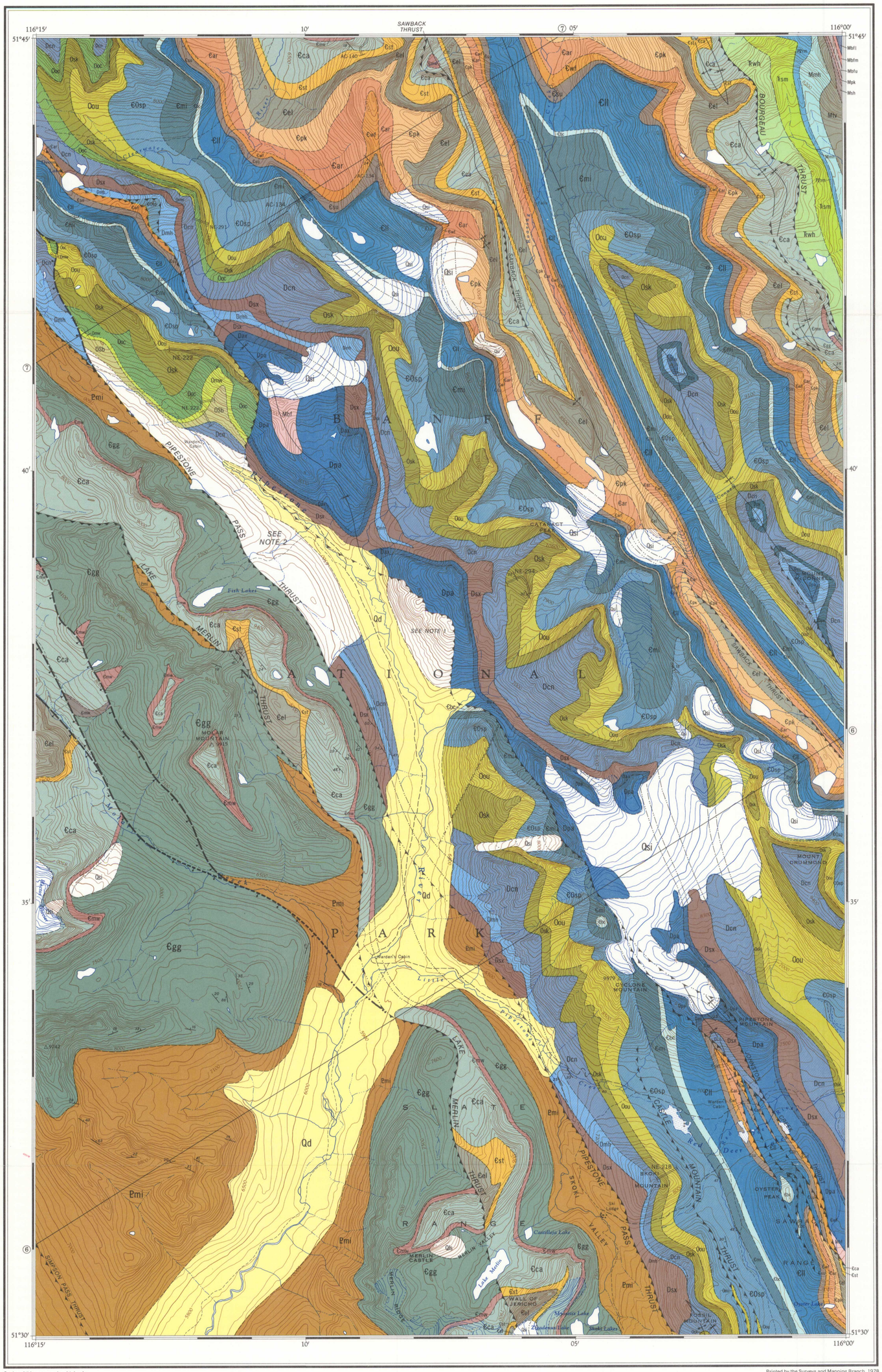
GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES



LEGEND

CENOZOIC

QUATERNARY
PLEISTOCENE AND RECENT

- Qsi — *Snowfields and glaciers (boundaries replotted from vertical air photographs)*
- Qls — *Landslide*
- Qd — *Till, alluvium, colluvium*

MESOZOIC

TRIASSIC
SPRAY RIVER GROUP (Trsm–Trwh)

- Trwh — *WHITEHORSE FORMATION: light grey, dolomitic siltstone and sandstone; red, green, and brown mudstone and siltstone; limestone and dolomite breccia*
- Trsm — *SULPHUR MOUNTAIN FORMATION: dark grey and brown, thin-bedded siltstone, silty mudstone, shale, and dolomitic siltstone*

PALEOZOIC

PENNSYLVANIAN AND PERMIAN

- PPrm — *ROCKY MOUNTAIN GROUP: light grey quartz sandstone, dolomitic sandstone, silty dolomite; chert*

MISSISSIPPIAN
RUNDLE GROUP (Mpk-Mmh)

- Mmh — *MOUNT HEAD FORMATION: dense dark grey limestone and argillaceous dolomite; grey limestone and calcarenitic limestone. May locally include strata of Etherington Formation at top*
- Mtv — *TURNER VALLEY FORMATION: light grey skeletal calcarenite and calcarenitic limestone; cherty limestone; dolomite*
- Msh — *SHUNDA FORMATION: light to dark grey dense limestone, calcarenitic limestone, and cherty limestone*
- Mpk — *PEKISKO FORMATION: light grey skeletal calcarenite, calcarenitic limestone, cherty limestone, and dolomite*

→ Miv — *LIVINGSTONE FORMATION: light grey skeletal calcarenite and calcarenitic limestone; cherty limestone; dolomite (in Structure Section only)*

- Mbfu — *BANFF FORMATION (Upper part): dark grey cherty and argillaceous and dolomitic limestone and calcarenitic limestone; and brownish-grey argillaceous dolomite*
- Mbfm — *Middle part: light to dark grey skeletal calcarenite, calcarenitic limestone, and argillaceous and dolomitic limestone*
- Mbfl — *Lower part: dark grey and brownish-grey shale; brown argillaceous siltstone; argillaceous and cherty limestone*

→ Mbf — *BANFF FORMATION: dark grey, finely crystalline, thin-bedded limestone; dark brownish-grey shale and calcareous shale; brown argillaceous siltstone, argillaceous and cherty skeletal calcarenitic limestone, and argillaceous dolomite (includes Exshaw Formation at base)*

DEVONIAN
UPPER DEVONIAN

- Dpa — *PALLISER FORMATION: thickly bedded and massive, dolomitic mottled limestone; grey, dense limestone; greyish-brown dolomite*
- Dak — *ALEXO FORMATION: thinly bedded silty dolomite, dolomitic sandstone; light grey dolomite, and dolomite breccia*
- Dsx — FAIRHOLME GROUP (Dpx, Dmh, Dcn, Dsx) *SOUTHESK FORMATION: massive to thickly bedded, light to medium grey, finely to coarsely crystalline dolomite; greyish-brown, finely to coarsely crystalline dolomite*

Note: Dmh and Dpx represent strata deposited basinward from Dsx and Dcn which formed reef-fringed banks

- Dmh — *MOUNT HAWK FORMATION: grey to brown calcareous mudstone with argillaceous limestone nodules; thin-bedded, dark grey,argillaceous limestone with locally abundant brachiopods and corals*
- Dpx — *PERDRIX FORMATION: black, calcareous and pyritic shale with calcareous nodules and thin beds of dark grey,argillaceous limestone*
- Dcn — *CAIRN FORMATION: massive to thickly bedded, dark brownish grey, medium crystalline dolomite with Amphipora and stromatoporoid beds; dark grey limestone, dolomitic limestone and dolomite in the lower part; minor chert and breccia; may locally include channel-filling red beds (Yahatinda Formation) at base*

PALEOZOIC

ORDOVICIAN AND SILURIAN

- OSb — *BEAVERFOOT FORMATION: dolomite, finely crystalline, brownish-grey, partly cherty, partly silty; limestone, dark grey, partly dense, partly fragmental*

ORDOVICIAN

- Omw — *MOUNT WILSON FORMATION: quartzite, white, fine- and medium-grained, thick-bedded, cross-laminated and massive*
- Ooc — *OWEN CREEK FORMATION: dolomite, grey, locally pink, mainly aphanitic, partly silty, sandy and siliceous; minor mudstone, grey to red*
- Osk — *SKOKI FORMATION: dolomite, mainly grey, finely and very finely crystalline, partly siliceous, partly fossiliferous, minor chert masses*
- 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; stromatolitic 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 dense, with dolomite partings and mottling, partly silty and sandy; dolomitized equivalents; minor siltstone and sandstone*

MIDDLE CAMBRIAN

- €ar — *ARCTOMYS FORMATION: shale, purple-red, green and grey; interbedded with siltstone, grey and yellow, dolomitic; minor orange-weathering dolomite*
- €pk — *PIKA FORMATION: limestone, mainly dense, flaggy, with partings of dense dolomite; minor flat-pebble conglomerate and oolite; dolomitized equivalents; minor shale near the base*
- €el — *ELDON FORMATION: limestone, mainly dense, dolomite-mottled, massive; dolomite, finely to coarsely crystalline, largely mottled, largely or entirely secondary*
- €st — *STEPHEN FORMATION: shale, grey to green; interbedded with limestone, partly dense, flaggy with dolomite partings. partly fragmental; minor oolite*
- €ca — *CATHEDRAL FORMATION: limestone, mainly dense, massive, dolomite-mottled; dolomitized equivalents, mainly mottled*
- €mw — *MOUNT WHYTE FORMATION: shale, greenish-grey; interbedded with siltstone, green to grey, and limestone, mainly fragmental, partly oolitic*

LOWER CAMBRIAN

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

PROTEROZOIC

UPPER PROTEROZOIC (HADRYNIAN)
WINDERMERE SUPERGROUP

- Emi — *MIETTE GROUP: grey slate and siltstone; poorly sorted grey and greenish-grey feldspathic quartz sandstone and pebble and granule conglomerate; green and purple slate; dense limestone and sandy limestone conglomerate*

Note 1: Undifferentiated; mainly Bison Creek, Mistaya, Survey Peak, Outram and Skoki Formations

Note 2: Undifferentiated; mainly or entirely Fairholme Group

- Geological boundary (defined, approximate, assumed)
- Geological boundary (assumed projection under cover of younger deposits)
- Bedding, tops known (inclined) — 15
- Other fault (approximate)
- Other fault (assumed projection under cover of younger deposits)
- Thrust fault (teeth on upthrust side; defined, approximate, assumed)
- Thrust fault (assumed projection under younger deposits)
- Gravity fault (solid circle indicates downthrow side; approximate, assumed)
- Gravity fault (assumed projection under cover of younger deposits)
- Anticline (trace of axial surface; defined)
- Syncline (trace of axial surface; defined)
- Stratigraphic section, locus of measurement (number refers to internal cataloguing system) studied by: J.D. Aitken ..... AC, B.S. Norford ..... NE — AC-134
- Line of section — ⑥ ⑥

Geology by R.A. Price and E.W. Mountjoy based on studies of vertical air photographs (1964-1975), ground and air observations by J.D. Aitken, H.U. Bielenstein, D.G. Cook, E.W. Mountjoy and R.A. Price (1964-1966)

Geological cartography by B.H. Ortman, 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 1961

Copies of the topographical edition of this map may be obtained from the Canada Map Office, 615 Booth Street, Ottawa, Ontario K1A 0E9

Approximate magnetic declination 1977, 22° 11.1′ East decreasing 5.3′ annually

Elevations in feet above mean sea-level

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, 1978

MAP 1463A

GEOLOGY

HECTOR LAKE

(East Half)

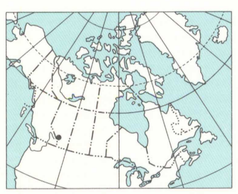
WEST OF FIFTH MERIDIAN

ALBERTA

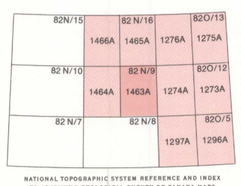
Scale 1:50,000

Kilometres 1 0 1 2 3 4 Kilometres
Miles 1 0 1 2 Miles

Transverse Mercator Projection



INDEX MAP



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

MAP 1463A
HECTOR LAKE
(East Half)
ALBERTA

1463A