



LEGEND

QUATERNARY PLEISTOCENE AND RECENT

- Qr Rock glacier
- Qsi Ice glacier
- Qd Till, alluvium, colluvium

CENOZOIC

CAMBRIAN

MIDDLE CAMBRIAN

- CAr ARCTOMYS FORMATION: shale, purple-red, green, and grey, with thin interbeds of siltstone and sandstone, dolomite, yellow, with ripple marks, mudcracks, salt casts; minor dolomite, yellow weathering
- CPk PIKA FORMATION: limestone, micritic, grey, thin bedded, with pairings and moldings of finely crystalline dolomite; limestone-pebble conglomerate; oolite; subconglomerate shale
- CEI ELDON FORMATION: limestone, micritic, dolomite mottling, grey, massive; replaced locally by secondary, coarsely crystalline dolomite

PALEOZOIC

LOWER CAMBRIAN

GOG GROUP (Cln-Clna)

- CMa MAHTO FORMATION: sandstone, quartzose, crossbedded; alternating with thinner beds of siltstone and silty shale
- CMu MURAL FORMATION: limestone, micritic, dolomite, finely crystalline, grey; archaeocyathid fragments; massive, some shale interbeds

LOWER CAMBRIAN AND/OR HADRYNIAN

- CMn McNAUGHTON FORMATION: sandstone, quartzose, crossbedded, massive; pebble conglomerate and feldspathic sandstone at base

HADRYNIAN

WINDERMERE SUPERGROUP

METTE GROUP (Pml-g - Pml-u)

UPPER METTE GROUP (Pml-u - Pml-u)

- PMU-U Shale unit: shale, silty, dark grey to black, variable amounts of pebbly sandstone; local psammite conglomerate with large dolomite clasts at base
- PMU-C Carbonate unit: dolomite, finely crystalline, light brown to grey, locally with stromatolites, intracasts and pisolites; massive, grades into PMU-U; occurs at more than one stratigraphic level
- PMU-S Sandstone unit: sandstone, quartzose, medium to coarse grained, light brown, weathers dark grey, crossbedded; interbedded with green pellets and minor carbonates
- PMU-P Pelite unit: shale and pelite, silty, brown to dark grey, finely laminated; minor sandstone and siltstone interbeds

PROTEZOIC

MIDDLE METTE GROUP

- PML-G Grit unit: ridge forming grit and sandstone in composite units up to 150 m thick, generally graded and poorly sorted; alternating with shale and siltstone, dark grey, massive; tops of composite grit units indicated by ---; local carbonate marker indicated by - - - - -; may be equivalent to part of the Old Fort Point Formation
- PML-OF OLD FORT POINT FORMATION: shale with siltstone, grey, green, purple; variable amounts of limestone, micritic, pink to light green; limestone intraformational breccia; minor calcareous sandstone (structure sections only)
- PML-P Pelite unit: shale and pelite, dark reddish grey to black; occasional interbeds of siltstone and sandstone, laminated and crossbedded; minor pebble conglomerate and grit in lenses and pods and occasional mappable units (G1, G2) up to 100 m thick; some black limestone and calcareous shale in lower part
- PML-G Grit unit: resistant, thin, composite units (5 to 20 m thick) of grit and poorly sorted sandstone, generally graded and in part calcareous; alternating with thicker pelite units, siltstone, and limestone; dark grey

Geological boundary (defined, approximate, assumed)

Geological boundary (assumed projection under cover of younger deposits)

Bedding, tops known (inclined, vertical, horizontal overturned)

Bedding, tops unknown (inclined)

Cleavage (inclined)

Concentration cleavage (inclined)

Minor fold axis, trend and plunge

Thrust fault (with teeth indicate upthrust side; defined, approximate, assumed)

Thrust fault (assumed projection under cover of younger deposits)

Fault (solid circle indicates downthrow side; defined, approximate, assumed)

Fault (assumed projection under cover of younger deposits)

Fault with both thrust and normal displacement (structure section only)

Anticline, trace of axial plane (fold upright, overturned, arrow indicates plunging; defined, approximate)

Syncline, trace of axial plane (fold upright, overturned, arrow indicates plunging; defined, approximate)

Anticline and syncline (assumed projection under cover of younger deposits)

Stratigraphic section, locus of measurement (number refers to internal cataloguing system) MZ studied by M. Teitz

Dotted line denotes change in mapping precision. Stratigraphic subdivisions are amalgamated at dotted line.

Line of section

Geology by E.W. Mounsey and R.A. Price, based on studies of vertical air photos (1964-1975), and ground and air observations by J.D. Aiken, H.R. Bakewell, H. Beesley, D.G. Cook, E.W. Mounsey, and R.A. Price (1965-1968); R. Forest (1963-1984), and E.W. Mounsey (1974-1978, 1983-1985)

Geological cartography by B.H. Orman, 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 Cartographic Information and Distribution Centre, in 1984

Copies of the topographic edition of this map may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, Ontario, K1A 0G9

Approximate magnetic declination 1988, 21°32.5' East decreasing 17" annually

Elevations in feet above mean sea level

NOTES

- The style of folding in the Middle Mette is shown diagrammatically on the structure sections.
- Older Mette Group strata presumably underlie the Old Fort Point Formation and its westward lateral equivalents.
- The stratigraphic relationships of the Middle and Lower Mette Group west of the Chatter Creek Thrust Fault relative to the Mette Group east of this fault are uncertain. The Carbonate marker in Pml-u may be equivalent to part of the Old Fort Point Formation.

SW NE

SCHEMATIC STRATIGRAPHIC RELATIONSHIPS

Unconformity

MAP 1657A
GEOLOGY
AMETHYST LAKES
WEST OF SIXTH MERIDIAN
ALBERTA - BRITISH COLUMBIA
Scale 1:50 000 - Échelle 1/50 000

Transverse Mercator Projection
CM 117°, Scale Factor 0.9996
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Projection transverse de Mercator
M.C. 117°, facteur d'échelle 0.9996
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Printed by the Cartographic Information and Distribution Centre, Published 1988

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