



- ### LEGEND
- CRETACEOUS LOWER CRETACEOUS**
- BULLHEAD GROUP**
- KC CADOMIN FORMATION** - chert pebble conglomerate, gillstone, and quartz arenite, medium to thick bedded.
- JURASSIC AND CRETACEOUS**
- MINNES GROUP**
- JKM MONTEITH FORMATION** - quartz arenite, grey - white, minor shale, black, argillaceous quartz arenite, and rare chert pebble conglomerate (big deposits). Some quartz arenites have 10-20% chert and fine clasts and some are calcareous. Shale sometimes has peat debris. Commonly includes underlying Fernie Formation, where it is too thin to show at 1:50 000 scale, and may include the overlying Gething Formation and/or Cadomin Formation where similarities in lithology make it impossible to distinguish individual formations.
  - JF FERNIE FORMATION** - shale, black to rusty and shale, calcareous, grey, minor quartz sandstone and chert pebble conglomerate. In many places a lower calcareous Fernie and an upper non-calcareous Fernie can be recognized. Upper Fernie is sometimes apparently uncalcareous and other places transitional upwards into the Monteith. In the transitional Fernie, quartz sandstone, pebbles and some chert pebble conglomerate become more abundant upwards.
- JURASSIC**
- TRIASSIC**
- SCHOOLER CREEK GROUP**
- TP PARDONET FORMATION** - limestone, fuggy, silty, brown weathering, recessive, characterized by abundant Monardid pelecypods; brachiopods and chrysozoan boxes are locally preserved. Upper part has prominent monardid rch beds (80-100% shells).
  - Tb BALDONNEL FORMATION UNDIVIDED** - limestone, massive grey, cliff forming, fossiliferous, with minor shale, siltstone, quartz arenite and argillaceous limestone. Rare chert nodules and lenses. Some pelecypod bioherms. Lower part more recessive and transitional into Charlie Lake Formation.
  - TBU UPPER BALDONNEL FORMATION** - light grey weathering, bluff forming limestone.
  - Tbi LOWER BALDONNEL FORMATION** - dark grey weathering, thin bedded limestone.
  - Tc CHARLIE LAKE FORMATION** - mixed siltstone, calcareous and dolomitic siltstone, dolomite, silty dolomite, silty limestone, minor limestone, argillaceous shale, quartz arenite, and carbonate breccia. Typically recessive and orange weathering. Limestone and quartz arenite form prominent resistant beds.
  - Tl LIARD FORMATION (Halfway Fm - suburface)** - quartz arenite and limestone, resistant, in very thick, metre-scale units, interstratified with minor thick units of siltstone, calcareous siltstone and shale. Sandstone with large scale crossbeds, burrows, trace fossils. Some limestones are massive grainstones containing floating chert clasts; some are burrowed.
- DIABER GROUP**
- TdG TOAD AND GRATING FORMATION (Dig and Money Fms. suburface)** - shale, calcareous, silty, brown-grey weathering, interbedded with units of argillaceous, brown weathering fine grained limestone. Upper part shows increasing abundance of thick units of argillaceous limestone and increasing abundance of silt. Lower part is more shaly and prograde. Includes thick units of calcareous sandstone typically in upper portion.
- PERMIAN**
- Pf FANTASQUE FORMATION** - dark grey chert, 5-20 m thick; locally with pebble lag at top of unit.
- CARBONIFEROUS**
- STODDART GROUP**
- CSG STODDART GROUP: (Goleta, Kiskateenaw, and Taylor Flat Formations)** - includes Goleta Formation: soft black shale and argillaceous fossiliferous limestone; Kiskateenaw Formation: brown weathering calcareous sandstone with abundant crossbeds, ripple-creeks lamination, bioturbation, shale and limestone interbeds; Taylor Flat Formation: rhythmically bedded carbonates, argillaceous shale and marl. Locally, Goleta, Taylor Flat or entire unit may be absent.
- RUNDLE GROUP**
- CP PROPHET FORMATION UNDIVIDED** - undivided members A, B, and C; laterally transitional to Deobit Formation.
  - CPu PROPHET MEMBERS B AND C** - undivided members B and C.
  - CP-C PROPHET MEMBER C** - limestone, chert and spiculite, medium to thick bedded, minor shale interbeds. Much of chert is replacement of limestone. Equivalent to upper the Deobit Formation in the subsurface. Becomes more chert-rich to the northwest.
  - CP-B PROPHET MEMBER B** - chert, thick-bedded, cliff forming, some bioturbation; minor siliceous shale, limestone beds and spiculite.
  - CP-A PROPHET MEMBER A** - shale, dark grey, interbedded with siliceous and thin-bedded chert.
- CARBONIFEROUS AND UPPER DEVONIAN**
- DCBR BESA RIVER FORMATION** - shale, white to black weathering, siliceous; black-brown weathering shale, and black, calcareous shale; rare minor thin units of brown-yellow weathering platy limestone.
- DEVONIAN**
- Dd DUNEDIN FORMATION** - limestone, medium to micaceous, fossiliferous ammonitoid and stromatolite dominated beds, argillaceous limestone. In west includes siltstones of dark dolomite. In east sparry and wuggy with some baffle. Includes a circular wackestone mound with flanking bedded beds north of map area. In east includes a few meters of argillaceous yellow weathering limestone at top.
  - Ds STONE FORMATION** - dolomite commonly with ammonitoids, medium to thick beds, micocrystalline to coarse crystalline, dark grey, light grey and/or dark grey colour dominates to the east; spar and wuggy porosity common on the east.
  - Dw WOKKPAH FORMATION** - quartzite, dolomitic sandstone, crossbedded, tan to yellow weathering. Discontinuous, varies from 0 to 20 m. Bases from Garte Ridge.
  - Dm MUNCHO-McCONNELL FORMATION** - dolomite, medium bedded, tan to cream coloured, with cryptalgal lamination, scattered quartz grains. Locally with beds of quartz arenite.
- MIDDLE SILURIAN**
- Sq Quartzite marker unit** - quartz arenite, crossbedded and horizontally laminated, with interbeds of pale dolomite and sandy dolomite (20-50 m thick).
- LOWER SILURIAN**
- UNCONFORMITY**
- SN NONDA FORMATION** - dolomite, grey to dark grey, medium to thick bedded, and cherty or silicified dolomite. Often with thick bioturbated and bioclastic beds containing stromatolites, brachiopods, corals, and crinoids.
- Basal Silurian unit** - shale, calcareous and dolomitic limestone, minor laminated dolomitic siltstone. Upper beds include small bioherms and bioclastic lenses transitional to Nonda Formation.
- UNCONFORMITY**
- UPPER ORDOVICIAN**
- Ob BEAVERFOOT FORMATION** - siltstone, dolomitic, reddish and brown. Overlain northeast by crossbedded quartz arenite and orange micaceous dolomite. Uppermost beds have mudcracks with dolomite breccia and fossiliferous quartzite. Transitional southwest into dolomitic shale, quartz turbidites, cherty and dolomitic siltstone, pyritic shale and black shale.
- MIDDLE ORDOVICIAN**
- Os SNOW FORMATION** - dolomite in medium to thick massive beds, dark grey to tan. Characterized by presence of oncolites, pisolites planispiral gastropods and solitary corals (Bighorns). Bioturbation and grazing trails common, upper beds sometimes cherty. More massive with fewer fossils on the north side of the Siderius Chief River.
- LOWER ORDOVICIAN**
- Ok KECHUKA GROUP** - limestone, argillaceous limestone, calcareous shale, fossil fragments, thin bedded, often nodular, tan weathering, putty grey to dark grey; upper beds are thicker and dolomitic; normally strongly cleaved.

- ### MAP SYMBOLS
- Geological boundary (defined, approximate, assumed)
  - Unit nomenclature change
  - Bedding, tops known (inclined, overturned, vertical, horizontal)
  - Bedding, tops unknown (inclined)
  - Cleavage or foliation (inclined, vertical)
  - Dip symbol (bearing/dip) dip direction; defined
  - Fault, sense not defined (defined, approximate)
  - Normal fault (approximate)
  - Anticline (defined, approximate, assumed)
  - Box syncline - limbs dip in same direction; arrow on steeper limb (correct, approximate, assumed)
  - Box anticline - limbs dip in same direction; arrow on steeper limb (correct, approximate, assumed)
  - Syncline (defined, approximate, assumed)
  - Overturned anticline (defined, approximate, assumed)
  - Overturned syncline (defined, approximate, assumed)
  - Fossil locality
  - Well (Dry/Abandoned)

### LIST OF WELLS

UWID	FILE NAME	REG. RELEASE	SURFACE LOCATION (Easting, Northing)
1 20000000000000	AM000 NORTHSTAR ET AL SIDERIUS C-000004-G-04	07 JAN 1998	46021 635772

Copies of this map are available from:  
Publications Office  
Geological Survey of Canada  
3303 - 33rd Street NW  
Calgary, Alberta T2L 2A7  
Phone: 403/292-7030  
Email: gsc\_calgary@gsc.nrcan.gc.ca



CONTOUR INTERVAL 100 FEET  
Elevations in Feet above Mean Sea Level  
North American Datum 1983  
Transverse Mercator Projection

PRELIMINARY GEOLOGY  
**MOUNT MCCUSKER**  
PEACE RIVER - CASSIAR DISTRICT  
BRITISH COLUMBIA  
Scale 1:50 000 Echelle 1/50 000  
Kilometres 1 0 1 2 3 Kilometres  
Universal Transverse Mercator Projection / Projection transverse universelle de Mercator  
© Crown copyright reserved / Droits de la Couronne réservés

OPEN FILE  
DOSSIER PUBLIC  
3767  
GEOLOGICAL SURVEY  
COMMISSION GÉOLOGIQUE  
OTTAWA  
May 2001

Although every effort has been made to ensure accuracy, this Open File Report has not been released for conformity with Geological Survey of Canada standards.

UNIVERSAL TRANSVERSE MERCATOR GRID, ZONE 10

94F08 Cyclops Peak	94G05 Redfern Lake	94G06 Mount Withrow
94F01 no name	94G04 Mount McCusker	94G03 Marion Lake
94C16 no name	94B13 Mount Robb	94B14 Mount Laurier

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

Geology by M.P. Cicole (G.S.C.) based on field work in 1999, 2000, on the eastern portion of the sheet, and by A. Legun (B.C.G.S.B.) based on fieldwork conducted during 1998 and 1999 on the west portion of the sheet.  
Some structural and contact data in the area of the Mount Bertha Thrust taken from Jamison and Pope (1996 GSA Bulletin, V. 108, pp. 208-224).  
Some structural data from Assessment reports to the B.C. Geological Survey Branch and Petroleum Branch.

THIS MAP IS A PRODUCT OF THE CENTRAL FORELAND NATMAP PROJECT  
Geological cartography by S.J. Hibbs and the BC SURVEY STAFF  
Any revisions or additional geological information from the user would be welcomed by the Geological Survey of Canada

Recommended citation:  
Cicole M.P. and Legun A.  
2001: Preliminary Geology of the Mount McCusker map area (94G04), Geological Survey of Canada Open File 3767, scale 1:50 000