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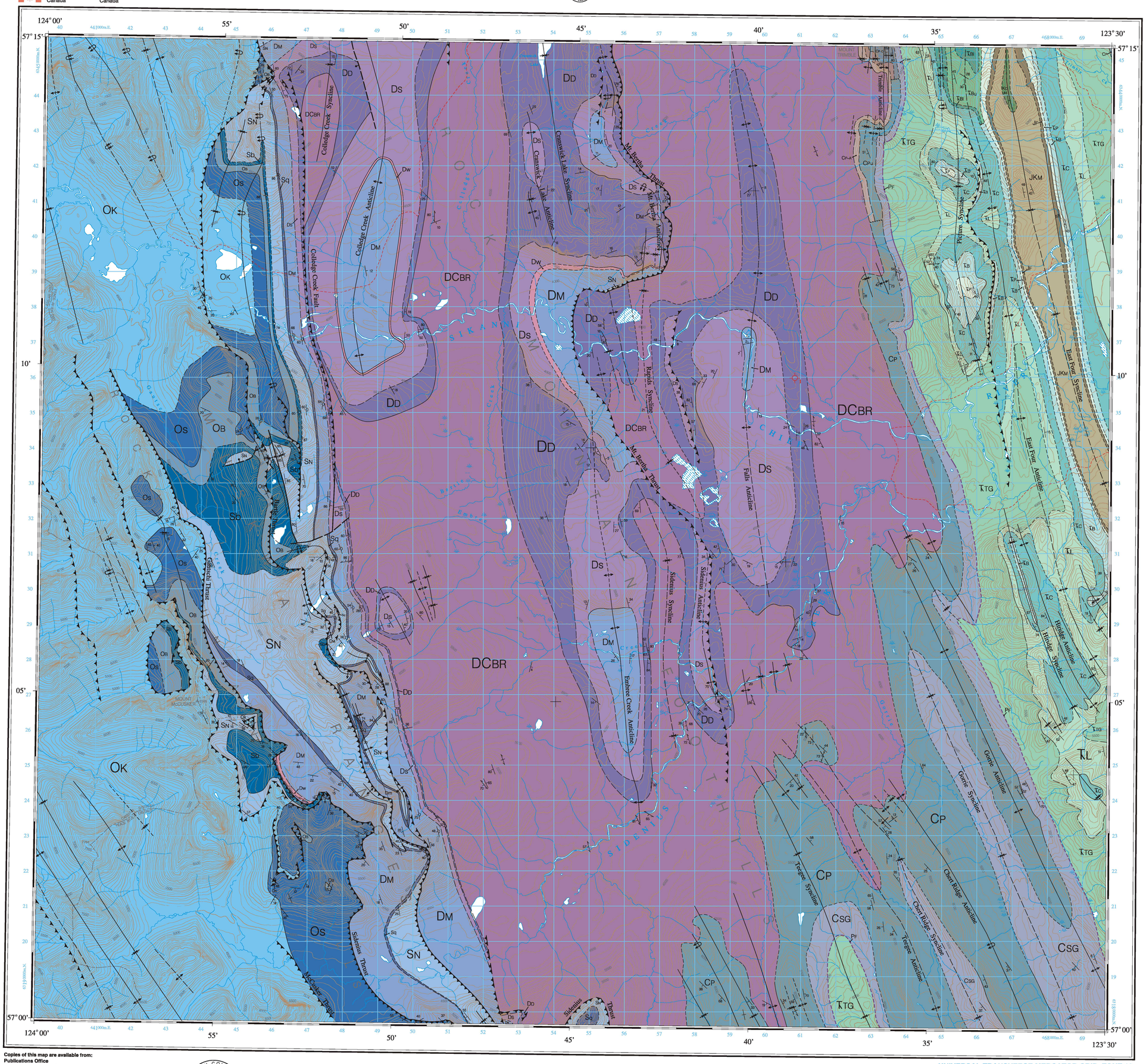
GEOLOGICAL SURVEY OF CANADA — COMMISSION GÉOLOGIQUE DU CANADA



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British Columbia Geological Survey

NATMAP CARTNAT
Canada's National Geoscience Mapping Program
Le Programme national de cartographie géoscientifique du Canada

Canada

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 Échelle 1/50 000

Kilometres 1 0 1 2 3 Kilomètres

Universal Transverse Mercator Projection

Projection transverse universelle de Mercator

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

UNIVERSAL TRANSVERSE MERCATOR GRID, ZONE 10

94F/08 Cyclops Peak	94G/05 Redfern Lake (GSC OF 3734)	94G/06 Mount Withrow (GSC OF 3737)
94F/01 no name	94G/04 Mount McCusker (GSC OF 3767)	94G/03 Marion Lake (GSC OF 3736)
94C/16 no name	94B/13 Mount Robb (GSC MAP 7-1986)	94B/14 Mount Laurier (GSC MAP 8-1986)

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

LEGEND

MESOZOIC

CRETACEOUS
LOWER CRETACEOUS
BULLHEAD GROUP

Kc — **CADOMIN FORMATION** - *Chert pebble conglomerate, gritstone, 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 (lag deposits). Some quartz arenites have 10-20% chert and lithic clastics and some are calcareous. Shales sometimes have plant debris. Commonly includes underlying Fernie Formation, where it is too thin to show at 1:50 000 scale, and may include overlying Gething Formation and/or Cadomin Formation where similarities in lithology make it impossible to distinguish individual formations.*

JURASSIC

Jf — **FERNIE FORMATION** - *shale, black 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 in someplaces is apparently truncated and other places transitional upwards into the Monteith. In the transitional Fernie, quartz sandstone, pebbles and some chert pebble conglomerate become more abundant upwards.*

TRIASSIC
SCHOOLER CREEK GROUP

Tkp — **PARDONET FORMATION** - *limestone, flaggy, silty, brown weathering, recessive; characterized by abundant Monotid pelecypods bivalves, brachiopods and ichthyosaur bones are locally preserved. Upper part has prominent monotid rich beds (80-100% shells).*

Tkb — **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 biostromes. Lower part more recessive and transitional into Charlie Lake Formation.*

Tkbu — **UPPER BALDONNEL FORMATION** - *light grey weathering, bluff forming limestone.*

Tkbl — **LOWER BALDONNEL FORMATION** - *dark grey weathering, thin bedded limestone.*

Tkc — **CHARLIE LAKE FORMATION** - *mixed siltstone, calcareous and dolomitic siltstone, dolomite, silty dolomite, silty limestone; minor limestone, argillite shale, quartz arenite, and carbonate breccia. Typically recessive and orange weathering. Limestone and quartz arenite form prominent resistant beds.*

Tkl — **LIARD FORMATION (Halfway Fm - subsurface)** - *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: pelecypod biostromes; some are massive grainstones containing floating chert clasts; some are burrowed.*

DIABER GROUP

Tktg — **TOAD AND GRAYLING FORMATION (Doig and Montney Fms. subsurface)** - *Shale, calcareous, silty, brown-grey weathering, interbedded with units of argillaceous, brown weathering fine grained limestone. Upper part shows upper increasing abundance of thick units of argillaceous limestone and increasing abundance of silt. Lower part is more shaly and phosphatic. Includes thick units of calcareous sandstone typically in upper portion.*

PALEOZOIC

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: (Golata, Kiskatenaw, and Taylor Flat Formations)** - *includes Golata Formation: soft black shale and argillaceous fossiliferous limestone; Kiskatenaw Formation: brown weathering calcareous sandstone with abundant cross-beds, ripple-cross lamination, bioturbation, shale and limestone interbeds; Taylor Flat Formation: rhythmically bedded carbonate, argillaceous shale and marl. Locally, Golata, Taylor Flat or entire unit may be absent.*

RUNDLE GROUP

Cp — **PROPHET FORMATION UNDIVIDED** - *Undivided members A, B, and C. Facies. Laterally tranistion to Debolt 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 Debolt 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- 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, mudstone to wackestone, fossiliferous amphiporid and stromatoporoid dominated beds, argillaceous limestone. In west includes interbeds of dark dolostone. In the east sparry and vuggy with some barite. Includes a crinoid wackestone mound with flanking biostromal beds north of map area. In east includes a few meters of arillaceous yellow weathering limestone at top.*

Ds — **STONE FORMATION** - *dolostone commonly with amphiporids, medium to thick beds, microcrystalline to coarse crystalline, dark grey, light grey and tan. Dark grey colours dominates to the east. Spar and vuggy porosity common on the east.*

Dw — **WOKKPASH FORMATION** - *quartzite, dolomitic sandstone, crossbedded, tan to yellow weathering. Discontinuous, varies from 0 to 50 m. Absent from Bartle Ridge.*

Dm — **MUNCHO-McCONNELL FORMATION** - *dololutite, medium bedded, tan to cream coloured, with cryptalgal laminite, scattered quartz grains. Locally with beds of quartz arenite*

MIDDLE SILURIAN

Sq — **Quartzite marker unit** - *quartz arenites, crossbedded and horizontally laminated, with interbeds of pale dolostone and sandy dolostone (20-50 m thick).*

UNCONFORMITY

LOWER SILURIAN

Sn — **NONDA FORMATION** - *dolostone, grey to dark grey, medium to thick bedded, and, cherty and silicified dolostone. Often with thick biostromes and bioclastic beds containing stromatoporoids, brachiopods, corals, and crinoids.*

Sb — **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 cross-bedded quartz arenite and orange arenaceous dolostone. Uppermost beds have mudcracks with dolomite breccia and hematite nodules and granule quartzite. Transitional southwest into dolomitic shale, quartz turbidites, cherty and dolomitic siltstone, pyritic shale and black shale*

MIDDLE ORDOVICIAN

Os — **SKOKI FORMATION** - *dolostone in medium to thick massive beds, dark grey to tan. Characterized by presence of oncolites, pisolites planispiral gastropods and solitary corals (Bighornia). Biotrubation and grazing trails common upper beds sometimes cherty. More massive with fewer fossils on the north side of the Sikanni Chief River.*

LOWER ORDOVICIAN

Ok — **KECHIKA GROUP** - *limestone, argillaceous limestone, calcareous shale, fossil fragments, thin bedded, often nodular, tan weathering, putty gray to dark gray; 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)
Thrust fault (teeth indicate dip direction; defined, approximate, assumed)
Fault, sense not defined (defined, approximate)
Normal fault (approximate)
Anticline (defined, approximate, assumed)
Box syncline - limbs dip in same direction, arrow on steeper limb (certain, approximate, assumed)
Box anticline - limbs dip in same direction, arrow on steeper limb (certain, 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	FULL NAME	RIG RELEASE	SURFACE LOCATION (Easting, Northing)
1	200C092G094G0400	AMOCO NORTHSTAR ET AL SIDENIUS C-092G/094-G-04	07 Jan 1998	460821,6335772

Geology by M.P. Cecile (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 Sruvey Branch and Petroleum Branch.

THIS MAP IS A PRODUCT OF THE CENTRAL FORELAND NATMAP PROJECT

Geological cartography by S.J. Hinds 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:
Cecile M.P. and Legun A.
2001: Preliminary Geology of the Mount McCusker map area (94G/04), Geological Survey of Canada Open File 3767, scale 1:50 000