



LEGEND

DEVONIAN	DM	MISFORTUNE FORMATION: chert, dark grey to black; minor black shale; whitish weathering
	SS	STEELE FORMATION: argillite; rusty green to buff; minor black shale and chert, and prominent bed of bright orange weathering dolostone
SILURIAN	O	ELMER CREEK FORMATION: OE-1: chert and siliceous shale; black, graphitic; OE-2: chert, siliceous argillite; grey, upper part bedded; minor limestone
	CSOC	LOWER CAMBRIAN TO SILURIAN: OLD CABIN FORMATION: basic volcanics, breccias, lapilli tuff, flows, sills, dykes; minor sedimentary rock units. Occurs as thick successions and tongues in CG and PCNA
CAMBRIAN TO SILURIAN	CG	GULL LAKE FORMATION: argillite; buff, green; minor units of shale, chert, quartzite, limestone and volcanoclastic rocks
	PCNA	UPPER PROTEROZOIC AND LOWER CAMBRIAN: HYLAND GROUP (PY - PCNA): MARCHILLA FORMATION (PCNS - PCNA): Arrowhead Lake Member: argillite, maroon and pale green; minor quartzite, conglomerate, limestone. Lower Cambrian in map area but ranges into Proterozoic outside map area
PROTEROZOIC	PCNS	Senoah Member: argillite; grey, green, buff, with minor thick units of quartzite and quartz-pebble conglomerate. Also minor units of limestone and silty limestone
	PA	UPPER PROTEROZOIC: ALGAE LAKE FORMATION: limestone, arenaceous limestone; minor dolostone, argillite breccia; upper part resistant; lower part recessive, thin bedded
PROTEROZOIC	PY	YUSEZYU FORMATION: sandstone; calcareous, brown weathering; Quartzite; grey-white weathering; minor shale, argillite and grit. Only uppermost part exposed. Grit units are abundant in more complete exposures west of Nidderly Lake map area. (m) Upper Maroon Member: argillite and siltstone; maroon and red weathering; minor green argillite, grey quartzite and buff calcareous quartzite

- Outcrop in covered area x
 Geological boundary (defined, approximate, assumed)
 Stylized geological boundary
 Bedding, top known (inclined, vertical, overturned)
 Bedding, top unknown (inclined, vertical)
 Cleavage (inclined, vertical)
 Minor fold (with attitude of axial plane and plunge, overturned)
 Normal fault (solid circle indicates downthrow side)
 Thrust or reverse fault (teeth indicate upthrow side; defined, approximate, assumed)
 Strike slip fault (arrow indicates relative movement)
 Rogue Decollement Surface (defined, approximate, assumed)
 Anticline (upright, overturned; arrow indicates plunge)
 Syncline (upright, overturned; arrow indicates plunge)
 Monoclinial bend, anticlinal
 Line of section E-E'
 Fossil; GSC catalogue number; abbreviated age (e.g. mO - middle Ordovician) C-119541 mO
 Microfossil collection taken but sample barren of conodonts (m)

- NOTES**
- The prefix "t" designates a map unit that is represented by 70-90% of the stratigraphic unit prefixed, but which is structurally repeated numerous times on small scale, local detachment surfaces. The mapped area can also include fault repetitions, as well as synclinal and anticlinal levels of underlying and overlying stratigraphic units in 10-30% of the area. Units with the "t" prefix are mapped both as single and tectonic units (e.g. CG or ICG).
 - Rogue detachment surface inferred from the observation that strata above are shortened to 20% of their original length while strata below the detachment are shortened to 60-80% of their original length.
 - Sub PCNS member: detachment displacement dissipates to zero; this is the front of the Rogue Decollement complex.
 - PCNS is replaced by PCNA facies in the south of the map area.
 - Zone of anomalously high strain within the ICG.
 - Marmot Thrust may merge with Rogue detachment surface rather than cut it and extend to depth.

Compiled from ground traverses by M.P. Cecile (1983, 1984, 1985) with assistance by Hans Smit (1983), Craig Hart (1984), and Peter Mustard (1985). Helicopter support was given by Northern Mountain Helicopters (1983, 1984, 1985). Expediting was provided by Ross River Services. The author's understanding of the geology was greatly assisted by discussions with J.C. Abbott (DIAND), and S.P. Conroy (GSC). Fossil determinations by G.S. Norford, G.S. Nowlan (GSC), and H.J. Hofmann (University of Montreal).

Geological cartography by E. Macey, Geological Survey of Canada (Calgary)

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Digital base map at the same scale from Geomatics Canada, Natural Resources Canada, modified for publication by the Geological Survey of Canada

Copies of the topographical edition of this map may be obtained from the Canada Map Office, Natural Resources Canada, Ottawa, Ontario, K1A 0G9

Magnetic declination 1998, 29°54'E, decreasing 14.2' annually

Elevations in metres above mean sea level

Copies of this map may be obtained from the Geological Survey of Canada, 601 Booth Street, Ottawa, Ontario K1A 0E8, 3903-33rd Street, N.W., Calgary, Alberta T2L 2A7, 101-600 Robson Street, Vancouver, B.C. V6B 5J9



MAP 1923A
 GEOLOGY
MARMOT CREEK
 YUKON TERRITORY

Scale 1:50 000 - Échelle 1/50 000

Kilometres 1 2 3 4 Kilometres

100 B/4	100 B/3	100 B/2
105 G/13	105 G/14	105 G/15
1944A	1923A	1899A
105 G/12	105 G/11	105 G/10
1943A	1901A	



ESIC CIST

JUN 22 1998

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Earth Sciences / Secteur des sciences de la Terre

Recommended citation:
 Cecile, M.P.
 1998: Geology and structure cross-section, Marmot Creek, Yukon Territory; Geological Survey of Canada, Map 1923A, scale 1:50 000

1923A