

LEGEND

- NEOGENE**
- Q Glacial drift and moraine, river deposits (unconsolidated)
- UNITS NORTHEAST OF TINTINA FAULT**
- CRETACEOUS (Tombstone Intrusions)**
- Kf biotite felsite¹
 - Kr feldspar-, quartz-phyric, rhyolite and aplite dykes, locally clay and carbonate altered; on Galena Hill and Mt. Haldane; not depicted here
 - KT hornblende ± biotite granite, quartz monzonite and granodiorite³
- TRIASSIC (Tombstone thrust sheet)**
- Td amphibole-chlorite (rarely augite) metadiorite and metagabbro, foliation-concordant
- TRIASSIC and/or OLDER (Robert Service thrust sheet)**
- d amphibole-chlorite metadiorite and altered peridotite
- TRIASSIC AND JURASSIC JONES LAKE FORMATION**
- Tjps brown, grey, green-weathering slate, sandy slate, dark grey limestone, calcareous sandstone, phyllite
- EARLY CARBONIFEROUS**
- MkH Keno Hill Quartzite (Tombstone thrust sheet): foliated, lineated dark grey quartzite; lesser phyllitic quartzite, chloritic and carbonaceous phyllite; minor calcareous quartzite (recrystallized limestone bed near Keystone Creek)
 - Mkv Metavolcanic member⁴: quartz-, feldspar-phyric chloritic phyllite with mm-scale quartz augen; thin limestone horizons
- MIDDLE TO LATE DEVONIAN EARN GROUP (Tombstone thrust sheet)**
- DMv felsic volcanic member 5: foliated quartz-sericite chlorite-phyllite and phyllite with mm-scale quartz augen; carbonaceous phyllite
 - Dmp carbonaceous phyllite, siliceous carbonaceous metasilstone, rare calcareous greywacke, metaconglomerate (Robert Service thrust sheet)
 - DME grey-blue weathering, jet black siliceous siltstone, grit- to pebble-sized conglomerate, brown shales/siltstone and chert
- MIDDLE PALEOZOIC Nagold unit (provisional)**
- PNm buff, maroon and minor green argillite with quartz sandstone and siltstone interbeds; green chert nodules near base. Rare light grey weathering, dark grey limestone beds.⁷
 - PNc thick-bedded green grit containing quartz and feldspar chips in chloritic matrix; 10-20 m thick
 - PNs yellow and grey weathering sandstone and grit
- ORDOVICIAN to MIDDLE SILURIAN STEEL FORMATION**
- Ss green cherty siltstone, argillite; locally calcareous
- DUO LAKE FORMATION (includes minor STEEL FORMATION)**
- OSd black, brown argillite with lesser black and grey chert, dark siltstone; thin- and wavy beds, load casts abundant in lower part; medium bedded upward with rare beds and lenses of grey limestone, top is white-weathering thin-bedded black chert with grey argillite
- EARLY ORDOVICIAN or OLDER RABBITKETTLE FORMATION**
- COr light grey weathering, dark grey limestone, grit and siltstone with limy cement; locally cross-bedded and wavy laminated
- GULL LAKE FORMATION**
- COg brown siltstone (olive- and brown-weathering siltstone with wispy black laminae is diagnostic); cherty black argillite; lesser black shale. At or above the base are grey dolostone and dolostone breccia or pebble conglomerate; minor medium bedded light grey quartzite
- UPPER PROTEROZOIC to LOWER CAMBRIAN HYLAND GROUP**
- PCN Narchilla Formation: maroon, grey and khaki argillite, siltstone; local sandstone interbeds
 - PYc Yusezyu Formation: medium grey weathering, dark grey limestone lenses; (includes Van Cleaves Hill occurrence, which may be younger)
 - PYp foliated chloritic metasilstone with hornblende phenocrysts
 - PYqp compositionally layered medium-to-coarse grained micaceous quartzose rock; muscovite-chlorite gritty phyllite; green and grey impure quartzite and metaconglomerate; rare calcisilicate
 - PYs medium to thick bedded sandstone with dark mudstone and sandstone interbeds, massive grit containing rip-ups, load casts and small cross-laminae. Local pink calcareous sandstone
 - PYb Black phyllite member: brown weathering, black graphic slate to carbonaceous phyllite with thin beds of fine-grained, dark grey quartz sandstone
- UNITS SOUTHWEST OF TINTINA FAULT**
- JURASSIC or TRIASSIC**
- TJq quartz feldspar porphyry
- PALEOZOIC**
- Pm white marble
 - Ps quartz muscovite schist

SYMBOLS

- Geological contact (defined, approximate, assumed).....
- Bedding (tops unknown, known, vertical, overturned)..... 27, 62, 81
- Foliation (inclined, vertical)..... 35
- Lineation (mineral streaking)..... 10
- Antiform or anticline (trace of axial plane; upright, overturned).....
- Synform or syncline (trace of axial plane; upright, overturned).....
- Fault, displacement unknown (exposed, inferred).....
- Thrust fault (approximate, assumed, overturned).....
- Mineral occurrence (Yukon Minfile number)..... 67
- Roads.....

MINERAL OCCURRENCES

- UNITED KENO HILL (Ag, Pb, Zn veins; Holdings not shown; incl Keno and Galena hills)
 - FAITH (Ag, Pb-vein)
 - DUNGAN (Ag, Pb-vein)
 - GOLD QUEEN (Ag, Pb-vein)
 - SILVER BASIN (Pb, Ag, Au-vein)
 - NARBE (Ag, Pb-vein)
 - MONUMENT (Ag, Pb-vein)
 - COMSTOCK (Ag, Pb-vein)
 - APEX (Ag, Pb, Zn-vein)
 - VANGUARD (Ag, Pb-vein)
 - HOMESTAKE (Ag, Pb-vein)
 - CHRISTINE (Ag, Pb-vein)
 - MO (Pb, Ag-vein)
 - MAYBURN (Ag, Pb, Zn-vein)
 - HOGAN (Ag, Pb-vein)
 - RUNER (Ag, Pb-vein)
 - WERNECKE (Ag, Pb, Zn-vein)
 - FORMO (Ag, Pb, Zn-vein)
 - NOMAD
 - PADDY (Ag, Pb, Zn-vein)
 - EAGLE (Ag, Pb, Zn-vein)
 - FISHER (Pb, Zn, Ag-vein)
 - PARENT
 - NORD (Ag, Pb-vein)
 - CREAM and JEAN (Pb, Zn, Ag-vein)
 - TITAN (Ag, Pb-vein)
 - SHANGHAI (Ag, Pb, Zn-vein)
 - WAYNE (Ag, Pb, Zn, Au, W-vein)
 - ARGENT
 - STREBCHUK (Sn, Ag, Pb, W-vein)
 - MT. HALDANE (Ag, Pb, Zn-vein)
 - LAYSNER (Ag, Pb-vein)
 - COBALT (Ag, Pb-vein)
 - PATTERSON
 - ETTA
 - GORDON (Sb, Ag-vein)
 - TWO BUTTES (W, Mo, Ppy)
 - SIDESLIP (Cu-Skn)
 - GREAT HORN (W, Cu, Zn-Skn)
 - RAM
 - HOT SPRING (Ag, Pb-vein)
 - LOST WERNECKE COPPER
 - ROOP (W-Skn)
 - MOON (Ag, Pb-vein)
 - MT. ALBERT (Ag, Pb-vein)
 - MCKIM (Ag, Pb-vein)
 - VACA
 - NERO (Ag, Pb-vein)
 - FRIESEN (Cu, W-Skn)
 - MT. HINTON (Au, Ag-vein)
 - AVENUE (Ag, Pb-vein)
 - CHANCE (Sb-vein)
 - YONO (Ag, Pb-vein)
 - SUNDOWN (Ag, Pb-vein)
 - GUSTAVUS (Ag, Pb-vein)
 - HALFWAY
 - RANKIN
 - NEWRY
 - CHRISTAL (Ag, Pb, Zn-vein)
 - SIGSWORTH (Ag, Pb, Zn-vein)
 - IRONCLAD (Ag, Pb, Zn-vein)
 - WALLINGHAM
 - NADIR
 - KALZAS (W, Sn-vein)
 - CORREY
 - WEASEL
 - GAMBLER (Ag, Pb-vein)
 - HAVREMAN (Au, Ag-vein)
 - DRILL (W-vein)
 - BELEY (Zn-vein)
 - WESMAN (Au, Ag-vein)
 - BIRGIT
 - WHITEMAN
 - GOLDBOCK
 - T-BIRD
 - FEED
 - TINY ISLAND (Ba-Form)
 - GORDEY (Ba-Form)
 - STEVEN
- Numbered by Yukon Minfile reference numbers

FOOTNOTES

- Roaring Fork felsite: U-Pb zircon 91.7 ± 0.5 Ma (Appendix 4); South side of Minto Creek, K-Ar whole rock: 85.3 ± 2.1 Ma GSC #87-164, Hunt and Roddick, 1987
- Mount Haldane porphyry: K-Ar on biotite separate: 89.0 ± 2.6 Ma GSC #80-74, Stevens et al., 1982
- Roop Lakes stock: U-Pb on 2 titanites: 92.8 ± 0.5 Ma (p.284; Appendix 4)
- Two Buttes stock: U-Pb on 2 titanites: 92.8 ± 0.3 Ma (90-RAS-25 Appendix 4) McArthur batholith: U-Pb on 3 monazites: 94.0 ± 0.3 Ma (RAS-91-57b; Appendix 4)
- Porphyritic felsic metavolcanic rock in Patterson Range (within Keno Hill quartzite unit): U-Pb zircon: 377.9 ± 2.9 Ma (91-DM-78; Appendix 4)
- Quartz augen phyllite (2 samples) from unit DMv near Tiny Island Lake: U-Pb zircon: 373.3 ± 5.4 Ma and 380.9 ± 1.3 Ma (GGA-91-137, -157; Appendix 4)
- Spiriferid brachiopod suggestive of Eleutherokomma reidfordi Crickmay, 1950 of mid-Frasnian (early Late Devonian) age (C-203017; Appendix 3); 3 km west southwest of Clarke Peak
- Echinoderm ossicle and Nowakia? sp. of latest Lochovian to mid-Famennian (Early to Late Devonian) age (GSC #C-203008; Appendix 3); recovered from 11.5 km northeast of Grey Hunter Peak
- Conodonts of Llandoveryan/Wenlockian (Early-Middle Silurian) age (GSC# C-202240; Appendix 3); recovered from limestone 15 km west-northwest of Clarke Peak
- Primitive conodont of Late Cambrian/Early Ordovician age (GSC# C-202221; Appendix 3); recovered from dolostone 7 km south of the outlet of Big Kalzas Lake

RECOMMENDED CITATION

ROOTS, C.F., 1997. Bedrock geology of Mayo map area, central Yukon (105M). Exploration and Geological Services Division, Indian and Northern Affairs Canada, Geoscience Map 1997-1, 1:50,000-scale.

This map accompanies ROOTS, C.F., 1997. Geology of the Mayo Map area, Yukon Territory, (105M). Exploration and Geological Services Division, Indian and Northern Affairs Canada, Bulletin 7.

Digital cartography and drafting by Will van Randen, Yukon Geology Program.

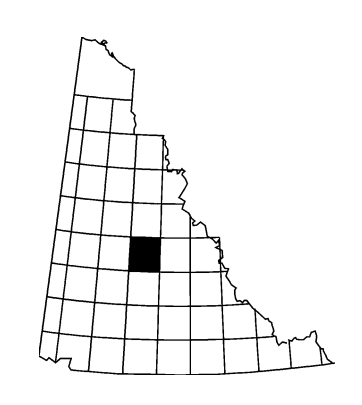
Any revisions or additional geological information known to the user would be welcomed by the Yukon Geology Program Office.

Copies of this map, the accompanying report and Yukon Minfile may be purchased from the Geoscience Information and Sales, Exploration and Geological Services Division Indian and Northern Affairs Canada, Room 102-300 Main St., Whitehorse, Yukon Y1A 2B5, Ph. 867-667-3264 Fax. 867-667-3267.

Geoscience Map 1997-1

Bedrock geology of Mayo map area central Yukon (NTS 105 M)

by
C.F. Roots
Geological Survey of Canada



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MAYO YUKON TERRITORY SCALE 1:250,000

0 5 10 15 20 25

Magnetic Declination 1996 varies from 31°26' easterly at the centre of the west edge to 32°14' easterly at the centre of the east edge
Mean annual change 4.2° westerly

Contour interval 500 feet
Elevations in feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

Larsen Creek 116A	Nash Creek 106D	Nadaleen River 106C
McQueen 115P	THIS MAP	Lansing 105N
Carmacks 115I	Glenlyon 105L	Tay River 105K