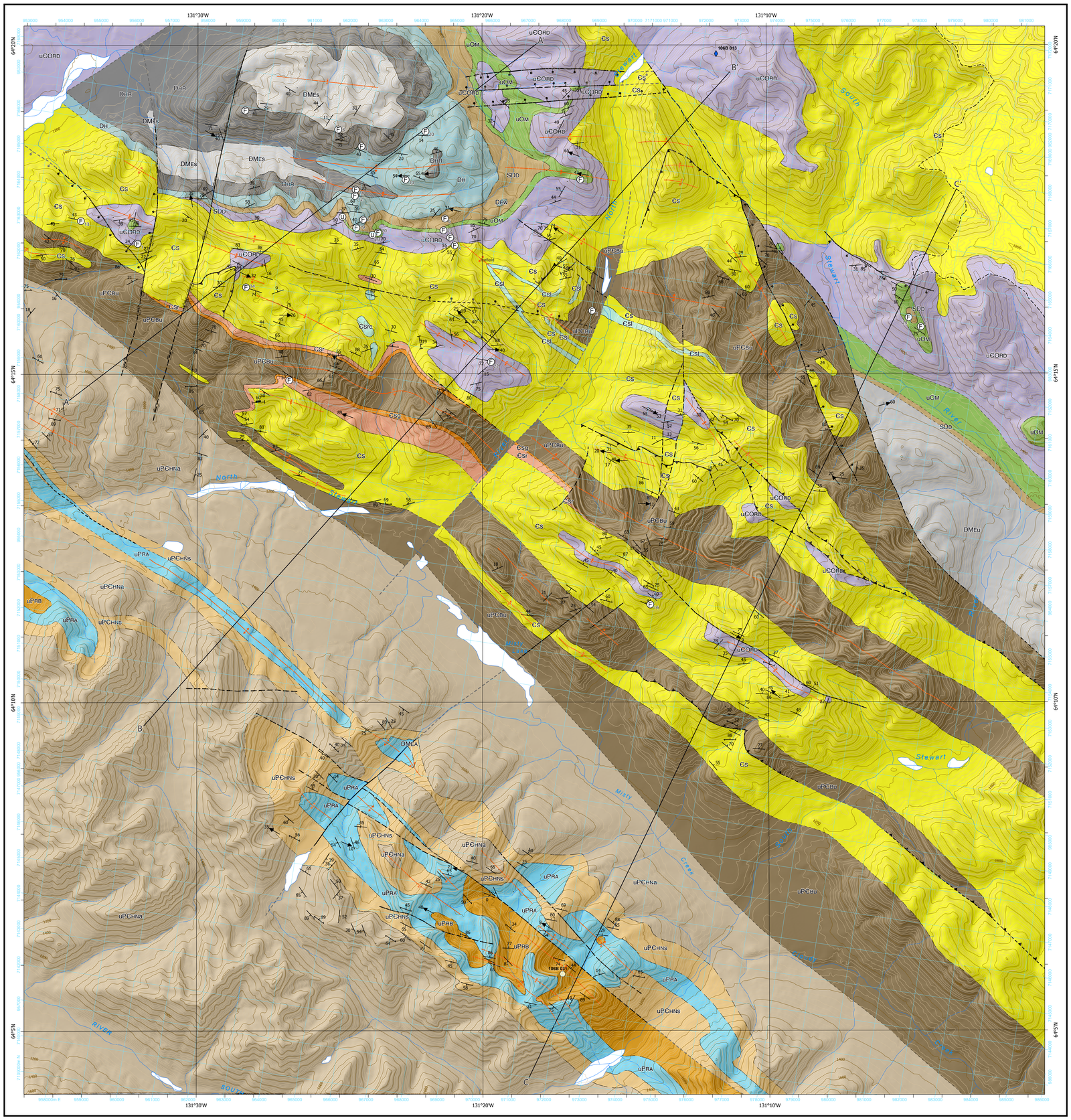




LEGEND

NORTHEAST

LATE DEVONIAN TO EARLY MISSISSIPPIAN

Earn Group

DMEs — orange and dark grey weathering, dark grey, thin-bedded siltstone with minor light brown weathering quartz arenite; orange-weathering, grey thin to medium-bedded, sublitharenite with shale chips at the base of beds; recessive, silvery-weathering shale.

DEVONIAN

Horn River Group

DHR — dark-weathering, black, thin and medium-bedded siltstone and argillite; minor orange and beige weathering, laminated, fine-grained sandstone with silty partings; cliff-forming, light grey weathering, laminated grainstone (possibly microbialite)

Hailstone Formation

DH — brown-weathering, grey, thin to medium-bedded, calcareous siltstone interbedded with cross-bedded grainstone and packstone with Dacryoconarids and fragments of crinoids, brachiopods, and bryozoans; thin-bedded black chert and siltstone

SILURIAN TO EARLY DEVONIAN

Road River Group: Duo Lake Formation

SDD — dark grey, graptolitic, calcareous siltstone to muddy grainstone where slump folds are common; light grey weathering, medium-bedded, crystalline limestone and grainstone with black chert beds; minor boundstone and wackstone

MIDDLE TO LATE ORDOVICIAN

Marmot Formation

uOM — brown-weathering, coarse-grained, calcareous lithic sandstone to poorly sorted, matrix-supported conglomerate that contains clasts of chert, grainstone, tuffaceous rock, and siltstone; thick-bedded to massive, medium-grained, volcaniclastic sandstone; green-brown weathering, well-bedded, thin to medium-bedded, bioturbated vitric tuff to volcaniclastic siltstone interbeddd with volcanogenic sandstone; minor welded lapilli tuff and sandy volcanic breccia; grey, graptolitic siltstone

Hess River-Rabbitkettle-Duo Lakes formations undivided

uCORD — beige and grey weathering, dark grey, thin-bedded, lime mudstone, calcareous muddy siltstone, and fissile silty to sandy grainstone that are commonly bioturbated; minor orange and dark grey weathering, coarse-grained sandy grainstone, quartz-rich calcareous greywacke, crystalline limestone, and graptolitic muddy siltstone with black chert interbeds; rare rudstone

EARLY TO MIDDLE CAMBRIAN

Sekwi Formation

CS — grey-brown weathering, thin-bedded, lime mudstone interbedded with orange-weathering, bioturbated grainstone; minor thick-bedded crystalline limestone with rare archeocyathid fossils

CSl — light grey, cliff-forming, massive, archeocyathid-bearing limestone that form tapering reef-like bodies

CSr — orange and grey weathering, clast and matrix-supported rudstone

CSg — recessive, grey, thin-bedded muddy, silty, micaceous grainstone; micaceous siltstone

EARLY CAMBRIAN

Backbone Ranges Formation - upper member

uPC̈Bu — dark brown weathering, thin to thick-bedded, quartz-rich, micaceous sandstone and siltstone. *Skolithos* and other trace fossils common

Backbone Ranges Formation - middle member

uPC̈Bm — bedded limestone and dolostone

SOUTHWEST

UPPER PROTEROZOIC TO LOWER CAMBRIAN

Hyland Group - Narchilla Formation

Arrowhead Lake Member

uPC̈HNa — brown, purple, and green, thin-bedded, mudstone and siltstone with minor trace fossils; minor, fine-grained, quartz-rich sandstone; minor orange-weathering, grainstone

Senoah Member

uPC̈HNs — grey-weathering, thin-bedded siltstone and fine-grained sandstone interbedded with medium-bedded, orange-weathering, calcareous quartz-rich sandstone with trough cross-stratification; orange-weathering, dark grey, thin-bedded to laminated, fine-grained grainstone with rare ripples and cross-beds; brown-orange weathering, medium-grained, pebbly, calcareous sublitharenite

EDIACARAN

Rackla Group

Algae Formation

uPRA — cliff-forming, light grey weathering, laminated to medium-bedded lime mudstone interbedded with grainstone; crystalline limestone; rudstone; maroon siltstone interbedded with lime mudstone occurs near the top of the unit in some locations; top of formation is karsted in some locations

Blueflower Formation

uPRB — dark-grey weathering, thin and medium-bedded grainstone interbedded with recessive, calcareous siltstone and siltstone; calcareous, quartz-rich sandstone; minor packstone comprising pisoids and carbonate clasts

SYMBOLS

geologic contacts (defined, approximate, inferred, covered)...

fault; movement not known (defined, approximate, inferred, covered)...

normal fault (defined, approximate, inferred, covered)...

sinistral strike-slip fault (defined, approximate, inferred, covered)...

anticline...

syncline...

bedding (upright, overturned)... 34 74

penetrative cleavage (inclined)... 83

fold axis (dominant phase)... 12

field station... .

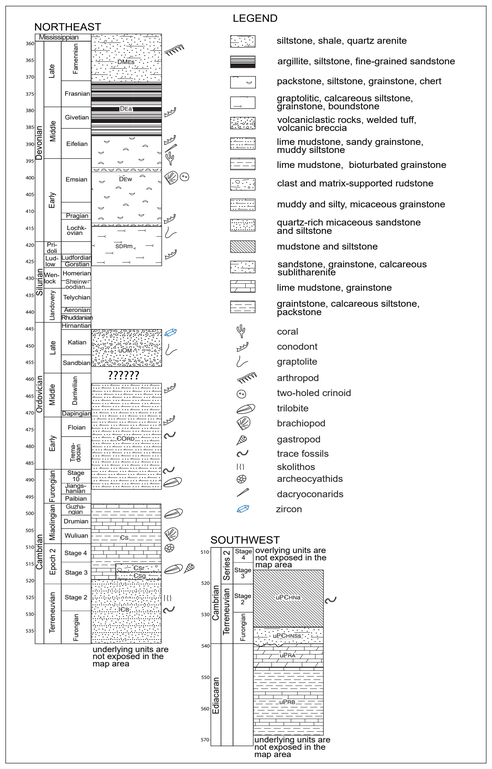
fossil collection... F 2

zircon U-Pb CA-TIMS date... U 2

FOSSIL DATA

Locality	GSC/YGS-ID	Material	Unit	Age range	Reference
1	O-101811	conodonts	Road River Group	late Llanvirn to early Llandeilo (middle Whiterock)	Nolan, G.S., 1987; 012-GSN-1987
2	O-093947-48; O-093950; O-092884-85	trilobites	Sekwi Fm	early Cambrian; Bonnia-Olenellus and Nevadella zones	Fritz, W.H., 1977; C-1-1977-WHF
3	24RC003-1	arthropod	Earn Group	Famennian (conservatively Frasnian to Early Mississippian)	Biostratigraphy.com, Report #1324
4	24RC005-1	dacryoconarid	Road River Group	middle Silurian (Wenlock) to Late Devonian (early Famennian)	Biostratigraphy.com, Report #1324
5	24RC113-1	graptolite	Road River Group	early Katian, middle Late Ordovician	Biostratigraphy.com, Report #1324
6	24RC130-1	graptolite	Road River Group	Early Devonian	Biostratigraphy.com, Report #1324
7	24RC182-2	graptolite	Road River Gp/ Rabbitkettle Fm	middle Late Ordovician	Biostratigraphy.com, Report #1324
8	24RC125-1	micro-gastropod	Sekwi Fm	Terraneuvian to Miaolingian Cambrian; Age 2 - Wulian	Biostratigraphy.com, Report #1324
9	24RC127-1	conodont	Rabbitkettle Fm	Early to Middle Ordovician; Floian to Darriwilian	Biostratigraphy.com, Report #1324
10	24RC016-1	crinoids, bryozoans	Earn Group	Emsian to Givetian	Blodgett, 2025
11	24RC020-1	crinoids, brachiopods	Earn Group	Devonian	Blodgett, 2025
12	24RC023-1	corals, brachiopods, crinoids	Earn Group	Emsian to Givetian	Blodgett, 2025
13	24RC039-1	brachiopods, trace fossils	Sekwi Fm	Ordovician to Silurian	Blodgett, 2025
14	24RC065-1	archeocyathids	Sekwi Fm	Cambrian	Blodgett, 2025
15	24RC141-1	small shelly fossils	Sekwi Fm	Cambrian	Blodgett, 2025
16	23RC060-1-2	trilobite fragments	Sekwi Fm	late early Cambrian	Blodgett, 2024
17	24RC012-1	conodonts	Earn Group	late Givetian	Gouwy and Nolan, 2025
18	24RC022-1	conodonts	Earn Group	late Eifelian to middle Givetian	Gouwy and Nolan, 2025
19	24RC025-1	conodonts	Earn Group	Late Silurian to Early Devonian	Gouwy and Nolan, 2025
20	24RC092-1	conodonts	Earn Group	Late Silurian to Early Devonian	Gouwy and Nolan, 2025
21	24RC094-1	conodonts	Earn Group	Early Devonian	Gouwy and Nolan, 2025
22	24RC095-1	conodonts	Road River Gp/ Rabbitkettle Fm	Whiterockian (early Darriwilian)	Gouwy and Nolan, 2025
23	24RC129-1	conodonts	Road River Group	Darriwilian (Middle Ordovician)	Gouwy and Nolan, 2025
24	24RC181-1	conodonts	Road River Group	Llandovery (Early Silurian)	Gouwy and Nolan, 2025

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Nowlan, G.S., 1987. Report on nine samples from western Canada. An Ordovician sample is from the headwaters of the Bonnet Plume River, Yukon Territory. Eight Upper Precambrian? and/or Lower Paleozoic samples are from the Duncan River area, Selkirk Mountains, British Columbia. The samples were submitted by Dr. W.H. Fritz (Geological Survey of Canada): NTS 82K/14, 106B/05; Geological Survey of Canada, Paleontological Report 012-GSN-1987, 3 p.

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RECOMMENDED CITATION

Cobbett, R.N., 2026. Bedrock geology map of Misty Creek, northern Selwyn Mountains, Yukon (NTS 106B/3, and parts of 106B/2, 6, 7 and 105O/14, 15). Yukon Geological Survey, Government of Yukon, Open File 2026-2, scale 1:50 000.

Digital cartography and drafting by Rose N. Cobbett, Yukon Geological Survey.

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

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A digital PDF of this map may be accessed free of charge from the Yukon Geological Survey website: https://data.geology.gov.yk.ca



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ESRI World Hillshade

ONE THOUSAND METRE GRID
Universal Transverse Mercator Projection
North American Datum 1983
Zone 8

BEDROCK GEOLOGY

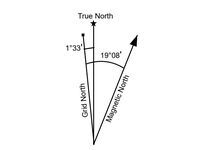
MISTY CREEK

YUKON

SCALE 1:50 000

0 1 2 3 4 5
kilometres

CONTOUR INTERVAL 20 METRES
Elevations in metres above Mean Sea Level



Use diagram only to obtain numerical values
APPROXIMATE MEAN DECLINATION 2025
FOR CENTRE OF MAP

106B/5 MISFORTUNE LAKE	106B/6	106B/7 FOURWAY PASS
106B/4	106B/3 MISTY CREEK	106B/2
105O/13 EINARSON CREEK	105O/14 MARMOT CREEK	105O/15 THOR HILLS

MINERAL OCCURRENCES

Label	Symbol	Name	Type	Status
106B 013	♦	Economic	vein Polymetallic Ag-Pb-Zn ± Au	showing
106B 031	○	Misty	unknown (Au)	showing

ISOTOPIC AGE DETERMINATIONS

Locality	Type	Station number	Age (Ma)	Mineral	Interpretation
1	LA-ICP-MS	24RC030-1	447.6 ± 2.6	zircon	maximum depositional age
2	LA-ICP-MS	24RC093-3-2	450.2 ± 2.6	zircon	maximum depositional age
3	CA-ID-TIMS	24RC093-3-2	449.55 ± 0.16	zircon	maximum depositional age

Yukon

Yukon Geological Survey
Energy, Mines and Resources
Government of Yukon

Open File 2026-2

Geology of Misty Creek, Yukon (NTS 106B/3 and parts of 106B/2, 6, 7 and 105O/14, 15) (1: 50 000 scale)

by
Rose N. Cobbett