

LEGEND

LAYERED ROCKS

TERTIARY (?)

Tb

Dark green to black aphanitic basalt; fragmental basalt

PALEOZOIC (?)

Unit 4

4

Dark grey siliceous phyllite; graded sandstone; minor dark grey marble and calcareous cobble conglomerate

Unit 3

3a

Intermediate to mafic metavolcanic rocks - predominantly medium green, massive chlorite - plagioclase - epidote ± biotite schist; locally intercalated with minor light green, banded calcareous schist, dark grey carbonaceous schist and marble; locally display pillow structures and mafic dyke swarms

Unit 2

2

Metavolcanic rocks - predominantly light grey, light green and medium green sandstone intercalated with dark grey phyllite, brown-weathering calcareous schist and olive-green phyllite; locally graded (epiclastic); banded chlorite - epidote - plagioclase schist (intermediate to mafic tuff); plagioclase - muscovite - biotite schist (basic tuff); in the north - plagioclase-phyric crystal tuff; polymictic volcanic conglomerate; minor greenstone

Unit 1

1

Fine-grained, light grey to light green felsic metavolcanic rock (plagioclase - quartz ± muscovite), intercalated with 1-2 metre-thick horizons of banded, white, light green and red (w) chert (possibly exhausted)

Unit 0

0

Light to medium grey marble, light grey phyllitic marble, black calcareous phyllite and minor dark grey carbonaceous phyllite; locally carbonate rhythmites with poorly sorted carbonate micro-conglomerate beds; locally contains lignite coals and crinoid fragments

Unit -1

-1

Quartz - feldspar meta-porphyr; light grey to light green meta-typhite; preliminary U-Pb zircon date of ca. 340 Ma (Mortensen, pers. comm.)

Unit -2

-2

Light grey to light green quartzite; minor dark grey phyllite; quartz - muscovite schist

Unit -3

-3

Dark grey to black carbonaceous phyllite, locally calcareous; minor brown-weathering dolomitic marble

Unit -4

-4

Light green quartz-chlorite-plagioclase-muscovite calcareous schist; commonly contains 1-2 mm calcite porphyroblasts; locally 3-5 cm-thick beds of brown-weathering dolomitic marble

Unit -5

-5

Polymictic pebble to boulder conglomerate with either calcareous or siliceous matrix; medium to dark grey marble; buff-weathering dolomitic marble; light to dark grey quartzite; carbonaceous schist

Unit -6

-6

Undivided - light to medium grey quartzite and psammite schist; medium to dark grey carbonaceous muscovite-quartz schist; light green chlorite-actinolite-carbonate schist; light green quartzite; minor marble; abundant, discontinuous orthogneiss sills

Unit -7

-7

Light grey, yellow to cream-weathering marble

Unit -8

-8

Light to medium grey calcareous quartzite, locally gritty; dark grey quartz - muscovite - calcite schist; minor light grey schistose marble

Unit -9

-9

Coarse-grained arkosic grit; grey and light green quartzite; minor dark grey phyllite

FOSSIL COLLECTION

Sample No.	Fossils	Period	Reference
99MC031 (C-11804)	crinoid fragments, conodonts (Pentameris sp.)	Ordovician?	GSFC fossil report
99MC042	Rugose corals	Carboniferous?	
99MC152	crinoid fragments	Ordovician - Triassic?	

SYMBOLS

Geological contacts (defined, approximate, assumed, covered)	
Thrust fault (defined, assumed)	
Extension fault (assumed)	
Dextral strike-slip fault (covered)	
Limit of outcrop	
Limit of mapping	
Bedding (inclined, upright, overturned)	
Compositional layering	
Dominant foliation (inclined, vertical)	
Mylonitic foliation	
Crenulation cleavage	
Elongation or mineral lineation (kinematic: unknown, reverse)	
Intersection lineation (vergence determined by bedding/foliation relation: unknown, clockwise, counterclockwise, symmetrical)	
Tight to isoclinal fold axis (dominant phase) (vergence: unknown, clockwise, counterclockwise, symmetrical)	
Crenulation lineation (first, second)	
Open fold axis (vergence: clockwise, counterclockwise, symmetrical)	
Fold axial surface trace (antiform: upright, overturned, synform: upright, overturned)	
Line of cross-section	
Apparent dip of bedding in cross-section (stratigraphic top: unknown, indicated by ball)	
Apparent dip of foliation in cross-section	
Fossil locality	
Geochronology sample (U-Pb, Ar = 40Ar/39Ar; zircon = zircon; w/m = white mica; br = biotite; Kfs = K-feldspar)	

GEOCHRONOLOGY

Map No.	Sample No.	Unit/Lithology	Method	Age (Ma)	Reference/Note
1	T-454	Drury pluton	U-Pb, zircon	353 ± 1.4	Oliver & Mortensen (1998)
2	99MC001	Quartz-feldspar porphyry	U-Pb, zircon	ca. 340	Mortensen (pers. comm., 1999)
3		cooling ages on white mica (w/m), biotite (bt) and K-feldspar (Kfs) from various units/lithologies; an asterisk (*) indicates a plateau age	40Ar/39Ar	85-210	Oliver (1996)

MINERAL OCCURRENCES

Yukon Minfile	Name	Commodity
Volcanic-associated massive sulphide		
new	Little Salmon	Cu (Py-Cpy)
105L014	Drury	Cu ? (tetrahedralite)
new	Mel	Cu-Zn (Bm-Mel-Azn)
new	Jaspis	Cu-Pb-Zn-Ag (Py-Mel-Bm)
new	Hwy	Cu-Pb-Ag-Au (Py)
105L008	Ulrike	Cu (Py)
105L011	Stad	Cu (Py)
new	Km473	Cu (Py)
Ultramafic intrusion associated		
105L009	Wheaton	asbestos ?
Work target		
105L007	Red Knoll	Py
105L010	Lark	Py

ACKNOWLEDGEMENTS

Melanie Reinecke provided assistance in the field and prepared the digital topographic base map. She is also responsible for preliminary mapping of the transect north of Bearfeet Creek. Safe helicopter service was provided by Trans North Helicopters and more specifically by Brian Parsons (Carmacks) and Grant Shannon (Ross River).

REFERENCES

OLIVER, D. H., 1996. Structural, kinematic, and thermochronological studies of the Teslin suture zone, south-central Yukon Territory. Ph.D. thesis, Southern Methodist University, 231 p.

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RECOMMENDED CITATION

COLPRON, M., 1999. Preliminary geological map of Little Salmon Range (parts of NTS 105/L1, 2 & 7), central Yukon (1:50,000). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1999-2.

Digital cartography and drafting by Maurice Colpron, Yukon Geology Program.

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

Copies of this map, the accompanying report and Yukon Minfile may be purchased from Geoscience Information and Sales, c/o Whitehorse Mining Recorder, Indian and Northern Affairs Canada, Room 102-300 Main St. Whitehorse, Yukon Y1A 2B5. Ph: 867-667-5266 Fax: 867-667-5267.

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This map was released November, 1999.

Indian and Northern Affairs Canada
Exploration and Geological Services Division
Yukon Region

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Preliminary geological map of Little Salmon Range (parts of NTS 105/L1, 2 & 7), central Yukon (1: 50 000 scale)

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