

QUATERNARY

Q Unconsolidated alluvium, colluvium and glacial deposits

INTRUSIVE ROCKS

PENNSYLVANIAN AND/OR PERMIAN

PPum Yellow-green weathering, pale green to tan, variably serpentinized ultramafic rock. Texture varies from scaly and foliated to massive, with pseudomorphs after orthopyroxene. Intrusive contacts locally preserved. Nephrite jade locally developed near basal contact.

LAYERED ROCKS

MID-PERMIAN

mPcd Red-brown to pale green matrix- and framework-supported polymictic conglomerate, pale green sandstone and lesser dark grey shale. Conglomerate clasts include porphyritic basalt, aphyric massive basalt, chloritic phyllite, quartz-mica phyllite, siliceous carbonaceous phyllite, carbonate, white bull quartz and chert. Clasts of serpentinite, blueschist and eclogite have been reported from this unit elsewhere (Mortensen, Erdmer and Ghent, 1997). Mid-Permian conodonts have been reported from this unit in Watson Lake map area (J. Mortensen, pers. comm., 2000).

unconformity?

PENNSYLVANIAN

Pd Dark grey to black carbonaceous argillite, dark grey chert, dark grey matrix-supported diamictite, grey chert-pebble conglomerates, grey-brown, poorly sorted, quartzofeldspathic greywacke, uncommon tan quartz sandstone. Uncommon limestone-pebble conglomerate at base.

unconformity?

Pc

Massive to thickly bedded, light to medium grey, light grey-weathering marble. Locally crinoidal. Pennsylvanian to Early Permian conodonts have been reported from this unit elsewhere (Orchard, M. in Gordey and Makepeace, 1999).

MISSISSIPPIAN

Mvcl Medium to dark grey, hard argillite and lesser gritty quartzofeldspathic sandstone. Includes laterally variable amounts of pale to medium green chlorite-muscovite-feldspar-quartz phyllite (intermediate meta-volcanic rocks) identical to unit Mv.

Mv Light to medium green, locally quartz- and feldspar-phryic intermediates meta-volcanic rocks. A Mississippian U-Pb age has been reported for this unit elsewhere (Mortensen, 1992).

Mch Dark grey argillite and chert

Mgc Pale to olive green, locally magnetite-bearing chert and argillite

Mc Light grey-weathering, light to medium grey massive marble

Me Coarse-grained metamorphic rocks including muscovite schist and pale to dark green garnet, pyroxene- and maficite-bearing meta-basite. This unit is thought to have been metamorphosed to eclogite facies (Erdmer et al., 1998). Also includes chert, chert-pebble conglomerate and dark argillite with uncertain contact relationships with the coarse-grained metamorphic rocks. White mica from this rock unit yielded an integrated  $Ar/Ar$  age of  $346 \pm 1$  Ma age (Erdmer et al., 1998).

SYMBOLS

Geological contacts (defined, approximate, inferred, covered).....  
Fault (defined, approximate, inferred, covered).....  
Limit of outcrop.....  
Limit of mapping.....  
Bedding.....  
Compositional layering.....  
Dominant foliation (inclined, vertical).....  
Fold axial surface trace (anticline: upright, overturned; syncline: upright, overturned).....  
Line of cross-section.....

MINERAL OCCURRENCES

Yukon Minfile (1997)

105H 014 KING ARCTIC jade, asbestos

REFERENCES

ERDMER, P., GHENT, E.D., ARCHIBALD, D.A. and STOUT, M.Z., 1998. Paleozoic and Mesozoic high-pressure metamorphism at the margin of ancestral North America in central Yukon. Geological Society of America, Bulletin, v. 110, p. 615-629.

GORDEY, S.P. and MAKEPEACE, A.J., 1999. Yukon digital geology. S.P. Gordey and A.J. Makepeace (comp.), Geological Survey of Canada, Open File 3826D and Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1999-1.

MORTENSEN, J.K. 1992. Pre-mid-Mesozoic tectonic evolution of the Yukon-Tanana terrane, Yukon and Alaska. Tectonics, v. 11, p. 836-853.

MORTENSEN, J.K., ERDMER, P. and GHENT, 1997. Westerly derived Upper Triassic clastic sedimentary rocks in southeastern Yukon: evidence for Early Mesozoic terrane interaction with the western margin of ancestral North America. In F. Cook and P. Erdmer (compilers), 1997. Slave-Northern Cordillera Lithospheric Evolution (SNORCLE) Transect and Cordilleran Tectonics Workshop Meeting, Abstracts, Lithoprobe Report No. 56, p. 76.

YUKON MINFILE, 1997. Frances Lake, NTS 105H. Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada. Also available from Hyperborean Productions.

ACKNOWLEDGEMENTS

The author would like to thank Jim Mortensen for sharing his extensive knowledge of the 'Banana'. Joshua Bailey provided excellent field assistance. Karl Ziehe and Trevor Boxall of Hekydynamics and Robin Ostertag provided safe and uneventful helicopter service.

RECOMMENDED CITATION

MURPHY, D.C., 2000. Preliminary geological map of part of Klatsa River area (105H/3), southeastern Yukon (1:50 000 scale). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 2000-15.

Digital cartography and drafting by D.C. Murphy, 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 the Geoscience Information and Sales, c/o Whitehorse Mining Recorder, Indian and Northern Affairs, Canada, Room 102-300 Main St. Whitehorse, Yukon, Y1A 2B5. Ph. 867-667-3266, Fx. 867-667-3267.

Store this map in a dark area to prevent colours from fading.

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

Open File 2000-15

Preliminary geological map of part of  
Klatsa River area (105H/3),  
southeastern Yukon (1:50 000 scale)

by

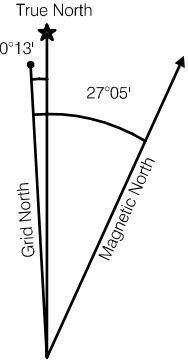
Donald C. Murphy  
Yukon Geology Program

KLATSA RIVER  
YUKON TERRITORY  
SCALE 1:50 000

Miles 1 0 1 2 3

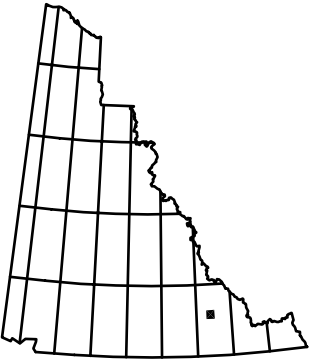
Metres 1000 0 1000 2000 3000 4000

CONTOUR INTERVAL 20 METRES  
Elevations in metres above Mean Sea Level  
North American Datum 1983  
Transverse Mercator Projection



Use diagram to obtain numerical values  
APPROXIMATE MEAN DECLINATION 2000  
FOR CENTRE OF MAP  
Annual change decreasing 5.1"

|          |                     |          |
|----------|---------------------|----------|
| 105 H/5  | 105 H/6             | 105 H/7  |
| 105 H/4  | 105 H/3<br>THIS MAP | 105 H/2  |
| 105 A/13 | 105 A/14            | 105 A/15 |



Topographic base produced by  
SURVEYS AND MAPPING BRANCH  
DEPARTMENT OF ENERGY, MINES  
AND RESOURCES  
Copyright Her Majesty the Queen  
in Right of Canada

ONE THOUSAND METRE  
Universal Transverse Mercator Grid  
ZONE 9