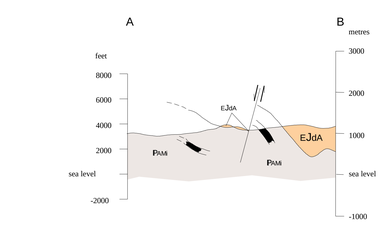
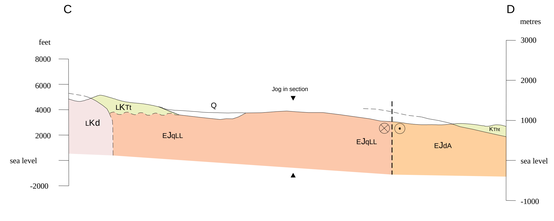
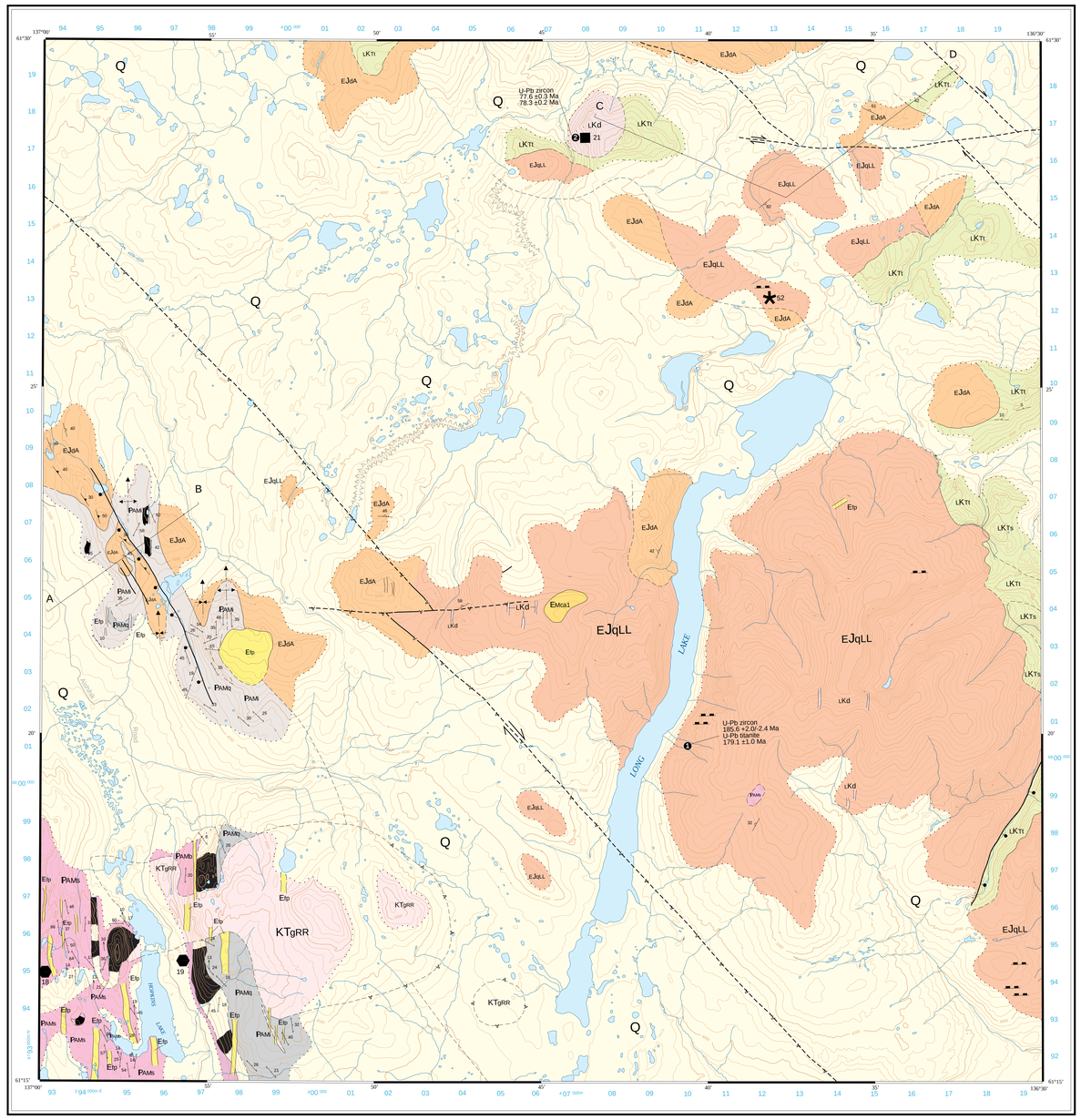




Canada

Canada-Yukon economic development agreement

Yukon Government



LAYERED ROCKS

QUATERNARY

Q — undifferentiated, unconsolidated gravels, sands and gravels of glaciogenic origin.

EOCENE

MOUNT CREEDON VOLCANIC SUITE

EMca1 — brown, orange and green weathering, intermediate to dark green, andesite feldspar porphyry flows; vesicular; hornblende phenocrysts are common pyroxene, biotite and grey quartz eyes are rare; a flow fabric, defined by the parallel alignment of feldspar grains, is common; unit includes some autoclastic flow breccia and minor tuff

LATE CRETACEOUS

TLANSANLIN FORMATION

LKTt — heterogenous grey, green and maroon, poorly consolidated, intermediate to felsic; feldspar and hornblende-feldspar porphyritic tuff, flow breccia and volcaniclastic rocks; feldspar and hornblende phenocrysts occur in discrete phenocrysts and as glomeroporphyritic clots; the matrix consists of crystal lithic tuffs and sands; pea to boulder size rounded to angular, autoclastic and, less commonly, xenolithic clasts constitute the breccia flows

LKTs — green, grey, and maroon, interbedded volcanoglomerate, sandstone and mudstone; clasts consist of reworked volcanic rocks and fragments of the country rock; sand consists primarily of feldspar and quartz grains; mudstones locally preserve plant debris; includes minor tuff.

PALEOZIOC AND LATE PROTEROZOIC

AISHIHIK METAMORPHIC SUITE

PAMi — heterogenous assemblages of feldspathic muscovite schist and gneiss, two-mica granitic gneiss, and hornblende diorite gneiss; all three rock types are intimately interfoliated; granitic gneiss and muscovite gneiss are tan to brown and are locally characterized by augen of potassium feldspar and discontinuous metabasite boudins; diorite gneiss is grey, equigranular and medium to coarse grained; includes minor marble and quartzite

PAMq — tan to brown to black quartzite; commonly micaceous includes minor mica-schist, marbles, metabasite and felsic meta-igneous rocks

PAMc — bleached white-weathering, white to grey, coarsely crystalline, flow banded, fetid marble; graphite, chert, metabasite and calc-silicate lamina are common

PAMb — orange and green weathering, green to black hornblende metabasite; includes hornblende amphibolite to hornblende-plagioclase gneiss and hornblende quartzite; adjacent to marble horizons may include significant amount of epidote-diopside calcsilicate; also includes Pamb- a solitary mega-boudin of orange weathering, dark green, gabbroic feldspar augen gneiss

PAMs — pink purple, red, and dark grey weathering, dark grey to brown, garneti-ferous, muscovite biotite feldspathic micaschist and quartz micaschist; foli-form quartz and quartz-feldspar lenses are common and locally impart a migmatic appearance to the rocks; micaceous feldspathic grey quartz gneiss is a locally significant subunit; includes minor quartzite, metabasite marble, and meta-igneous rocks

INTRUSIVE ROCKS

EOCENE

Etp — north-trending, olive to orange weathering, green feldspar porphyry dyke rocks; hornblende phenocrysts are common; thought to represent feeder dykes to Emca1 flows; includes buff weathering, tan to orange, leucocratic quartz eye feldspar porphyry which forms a plug that intrudes the western margin of the Aishihik Batholith in central-west 115 H/7

LATE CRETACEOUS

LKd — light grey weathering, dark grey, medium to coarse grained, equigranular, hornblende diorite; planar fabric defined by alignment of euhedral hornblende grains; strongly magmatic; underlies the SATO claims; includes orange weathering, dark green, aphanitic to finely crystalline, dense mafic dyke rocks in 115 H/7

LATE CRETACEOUS - TERTIARY

RUBY RANGE PLUTONIC SUITE

KTgRR — grey to light brown weathering, light to dark grey medium to coarse grained, equigranular to potassium feldspar megacrystic; biotite-hornblende granodiorite; hornblende biotite monzodiorite and quartz monzonite, in which grey quartz eyes are abundant, is a locally significant phase; titanite is a locally significant accessory; includes minor mafic microdiorite and hornblende diorite

EARLY JURASSIC

LONG LAKE PLUTONIC SUITE

EJqLL — pink-orange weathering, rose to pink to white leucocratic, biotite hornblende quartz monzonite to granite; texturally heterogenous ranging from coarsely crystalline, potassium feldspar megacrystic rock, to finely crystalline equigranular rock; alsooccurs as cross-cutting pegmatitic and aplitic dykes; coarse grained rocks are characterized by a subtle to well developed planar fabric defined by the parallel alignment of feldspar megacrysts; microvugs are common; locally includes significant amounts of EJdAB.

AISHIHIK BATHOLITH

EJdA — white to orange weathering, grey, coarsely crystalline, equigranular, hornblende diorite and monzodiorite; a porphyritic texture, defined by potassium feldspar megacrysts is locally present minor amounts of biotite are common; epidote and titanite are important accesory phases; planar fabrics include a solid state fabric along the western margin of the batholith, and a magmatic fabric elsewhere; includes minor mafic microdiorite enclaves, migmatite, and lit-par-lit gneiss in which hornblende diorite is interleaved with EJqLL.

SYMBOLS

- approximate limit of bedrock
- geological contact (defined, inferred)
- fault (defined, inferred, dot on down dropped side)
- defines contact or fault inferred from aeromag data
- bedding (measured, estimated from air photo)
- prominent foliation
- quartz-rodding, mineral elongation lineation
- planar magmatic fabric in intrusive rocks (inclined, horizontal)
- planar solid-state fabric in intrusive rocks (inclined, horizontal)
- fold axial surface trace (upright and overturned antiforms and synforms)
- quartz veins
- breccia
- line of cross-section
- Isotopic age determinations
  - Johnston et al. 1996
  - Lewis 1997

MINERAL OCCURRENCES

Minfile Number	Name	Deposit type
115H018	Janisiw	Cu-Mo-W skarn
115H019	Hopkins	Cu skarn
115H021	Sato	Cu-Mo porphry
115H052	Lascas	industrial-grade quartz

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JOHNSTON and TIMMERMAN, J., 1997. Geology of Aishihik Lake map area, Yukon (NTS 115 H/6). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs, Canada, Geoscience Map 1997-8.

RECOMMENDED CITATION

JOHNSTON and TIMMERMAN, J., 1997. Geology of Hopkins Lake map area, Yukon (NTS 115 H/7). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs, Canada, Geoscience Map 1997-9.

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.

Copies of this map, the accompanying report and Yukon Minfile may be purchased from 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.

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

Map released November, 1997, subsequent revision dates are:

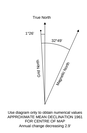
Topographic base produced by SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES.

ONE THOUSAND METRE
Universal Transverse Mercator Grid
ZONE 8

HOPKINS LAKE
YUKON TERRITORY
SCALE 1:50 000

Miles 3 2 1 0 1 2 3 Miles
Metres 1000 0 1000 2000 3000 4000 Metres

CONTOUR INTERVAL 100 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection



115 H/11	115 H/10	115 H/9
115 H/6 Johnston & Timmerman Geoscience Map 1997-8	**115 H/7 THIS MAP**	115 H/8
115 H/3	115 H/2	115 H/1

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

Geoscience Map 1997-9

Geology of Hopkins Lake map area, Yukon (NTS 115 H/7)

1:50 000-SCALE

by

Stephen Johnston and Jay Timmerman
Canada/Yukon Mineral Development Agreement
Geoscience Office