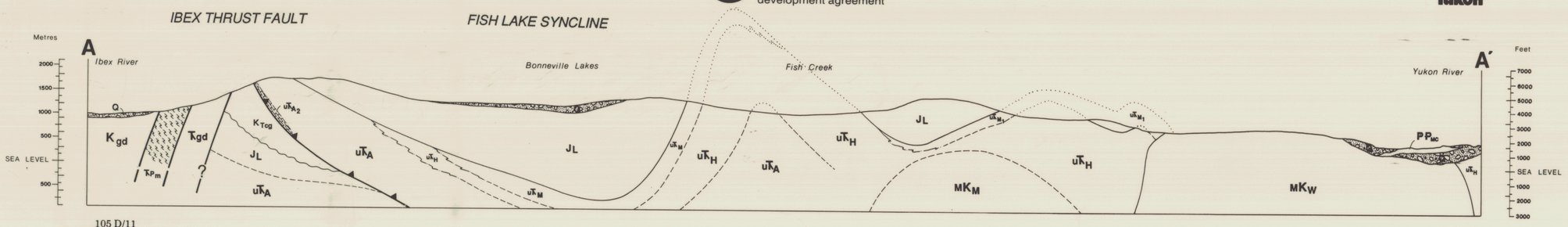
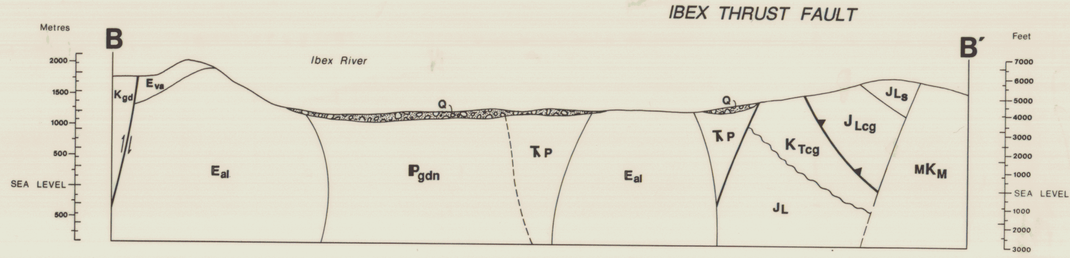
Canada

canada/yukon economic development agreement

Yukon





105 D/11

105 D/11

LEGEND

QUATERNARY

- Q f — Unconsolidated gravel, sand and silt of fluvial or glaciofluvial origin
- Q l — Unconsolidated gravel, sand, silt and varved clay of lacustrine or glaciolacustrine origin
- Q g — Unconsolidated glacial moraine, kame, esker and drift material

QUATERNARY(?) TO LATE TERTIARY
PLIOCENE TO PLEISTOCENE

- PP MC — **Miles Canyon Volcanics:** Dark red to brown weathering, columnar jointed, vesicular and amygduloidal basalt flows; pillow basalt and autoclastic breccia

TERTIARY
OLIGOCENE

- Q t — Orange-brown weathering, resistant, medium-grained felsite and green, sub-volcanic, pyroxene-phyric dacite(?) (33 Ma [1])

EOCENE

- E gr — **Jackson Creek Granite:** Light grey weathering, coarse-grained, smokey quartz-eye, biotite granite with pale pink porphyritic potassium feldspar (55 Ma [2])
- E al — **Ibex Alaskite:** Light orange weathering, medium-grained, leucocratic, alaskite and quartz-rich granite (58? Ma [2])
- E va — Massive to poorly banded, fine-grained, dark weathering, glassy grey to black, locally porphyritic dacite and andesite

CRETACEOUS
MIDDLE CRETACEOUS

- MK M — **Mount McIntyre Pluton:** Pale orange weathering, fine- to medium-grained pink granophyric monzonite porphyry, biotite, quartz monzonite and acicular hornblende quartz monzonite (97 Ma [2])
- MK M1 — Medium-grained, euhedral hornblende, granodiorite to quartz diorite
- MK Y — Coarse-grained, medium grey to orange-pink, anorthositic, hornblende quartz syenite
- MK W — **Whitehorse Pluton:** Dark grey weathering, medium - grained, biotite-hornblende granodiorite, quartz diorite, hornblende diorite and gabbro; local weak foliation (105-116 Ma [2])
- K gd — Dark grey weathering, medium- to coarse-grained hornblende and biotite-hornblende granodiorite

TRIASSIC AND OLDER (?)

- T gd — Dark grey weathering, medium- to coarse-grained hornblende granodiorite with glomeroporphyritic hornblende
- P gdn — Moderately resistant, light weathering, medium-grained, weakly foliated to gneissic, leucocratic hornblende granodiorite, diorite and quartz diorite

WHITEHORSE TROUGH

CRETACEOUS
LOWER AND MIDDLE CRETACEOUS

- K Tcg — **Tantalus Formation:** Massive to thick bedded, resistant, grey, black and white chert-pebble conglomerate with recessive, poorly-indurated beds of gritty chert, quartz and feldspar sandstone and interbeds of black and tawny coloured sandy shale often containing plant fragments; minor meta-anthracite coal

JURASSIC
LOWER AND MIDDLE JURASSIC

LABERGE GROUP (HETTANGIAN TO AALENIAN)

- J Lcg — Brown-orange weathering, resistant, massive, thick bedded, clast- and matrix supported, well-rounded granitic and volcanic cobble conglomerate; clasts of granodiorite and Lewes River Group volcanics with lesser metamorphic, quartz, limestone and sedimentary clasts, granitic clast dominant higher in section; interbedded greywacke, sandstone and argillite
- J Ls — Pale to dark orange weathering, dark grey, massive, thick to medium bedded, coarse-grained, feldspathic and lithic greywacke with lesser arkose and quartz-rich grits; interbedded conglomerate and argillite
- J La — Dark red-brown weathering, rhythmically and thin bedded, tawny to dark green and grey, silty argillite, shale, siltstone and hornfels; contains ammonoid fossils; minor interbedded massive sandstone and conglomerate

UPPER TRIASSIC TO JURASSIC

LEWES RIVER GROUP (KARNIAN TO SINEMURIAN)

- uK M — **Aksala Formation**
  Mandanna Member (Late Norian to Sinemurian): Red, purple, green and grey, medium bedded to massive, crystal-rich greywacke and shale; minor interbedded conglomerate and red siltstone; occasional pebble-rich layers or bioturbation. Equivalent facies include: uK M1 - coarse-grained, tan to brown, massive, immature, lithic-rich arenite; minor angular clast conglomerate, argillite and shale. uK M2 - well bedded, red to maroon, poorly indurated siltstone with crystal-rich greywacke
- uK H — **Hancock Member** (Norian): Resistant, white to light grey weathering, massive and thick bedded limestone, biodastic limestone and marble; minor sooty black limestone and pale yellow dolostone: uK H1 resistant, thin, well bedded, interlaminated white limestone and tan weathering, dark grey siltstone
- uK A — **Annie Member** (Karnian to Norian): Resistant, massive to moderately well bedded, red, purple and green matrix (and clast) supported pebble conglomerate, agglomerate and debris flows; clasts of augite porphyry and subvolcanic dacite porphyry with crystal-rich wacke matrix; interbedded arenite and minor waterlain tuff; uK A1 dacite-andesite feldspar (and hornblende) porphyry flows, agglomerate and breccia; minor red siltstone; uK A2 - massive, grey, white to pink (often sheared or recrystallized) limestone and limestone breccia; located near the base of this Member
- T P — **Povoas Formation** (Karnian (and older?)): Resistant, massive, light to dark green weathering, dark green to black, basalt and basaltic andesite flows and breccia, commonly altered ; minor well indurated dark grey greywacke, agglomerate, tuff and associated epiclastic rocks with thin carbonate beds: T Pm - chlorite and chlorite-augite schists, augite-plagioclase gneiss and other variably metamorphosed equivalents of this Formation

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2 MORRISON, G.W., GODWIN, C.I. ARMSTRONG, R.L., 1979. Interpretation of isotopic ages and $^{87}Sr/^{86}Sr$ initial ratios for plutonic rocks in the Whitehorse map area, Yukon; Can. Jour. Earth Sci., Vol. 16, p. 1988-1997.

3 DOHERTY, R.A. and HART, C.J.R., 1988. Preliminary Geology of Fenwick Creek (105D/3) and Alligator Lake (105D/6) map areas; Indian and Northern Affairs Canada:Yukon Region, Open File 1988-2.

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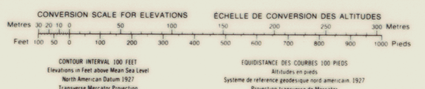
SYMBOLS

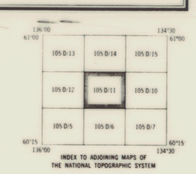
- Limit of outcrop
- Geological boundaries (definite, approximate, assumed, extrapolated beneath overburden)
- Facies change
- Bedding (inclined, vertical, overturned, tops unknown)
- Dyke (inclined, vertical)
- Schistosity or cleavage (inclined, vertical)
- Syncline (defined, approximate, assumed)
- Anticline, syncline (overturned)
- Fault (defined, approximate, assumed, extrapolated beneath overburden; circle on downthrown side)
- Thrust fault (defined, approximate, assumed; teeth on upper plate)
- Cross section line — A A´
- Mineral occurrence (number refers to Yukon Exploration series) — ●207

MINERAL OCCURENCES 105 D/11

YEX Number	NAME	Commodity
49	LITTLE CHIEF	Cu,Fe,Au,Ag
67	GROUSE	Cu,Fe,Au,Ag,Bi
71	HARNIAK	Cu,Au,Ag
80	FISH LAKE	COAL
81	LUSCAR	COAL
190	RABBIT FOOT	Cu
192	PUEBLO	Cu,Fe,Ag
193	RESEVOIR LAKE	Mo,W
194	SCHEELITE	W
195	COPPER KING	Cu,Mo,Au,Ag
196	CARLISLE	Cu,Mo,Ag
197	SPRING CREEK	Cu
198	EMPRESS OF INDIA	Cu
199	RETRIBUTION	Cu
200	BEST CHANCE	Cu,Fe
201	GRAFTER	Cu,Fe
202	ARCTIC CHIEF	Cu,Fe,Au,Ag
203	SUBURBAN	Cu,Fe
204	VERONA	Cu,Fe
205	POLAR	Cu
206	BIG CHIEF	Cu,Fe,Au,Ag
207	MIDDLE CHIEF	Cu,Fe,Au,Ag
209	VALERIE	Cu,Fe,Au,Ag
210	NORTH STAR	Cu,Fe,Au,Ag
211	PASS LAKE	Cu
212	COPPER CLIFF	Cu
225	WAR EAGLE	Cu,Mo,Ag
226	ANACONDA	Cu
274	GULCH	Cu,Fe
275	QUINALTA	Cu

WHITEHORSE
YUKON TERRITORY
Scale 1:50 000 Echelle





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

GEOLOGICAL MAP OF WHITEHORSE MAP AREA (105D/ 11)

Geology by C.J.R. Hart, K.S. Pelletier, J. Hunt and M. Fingland

to accompany

OPEN FILE REPORT 1989-2

Geology of Whitehorse (105D/11) map area; C.J.R. Hart and K.S. Pelletier, of Aurum Geological Consultants, Inc.

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