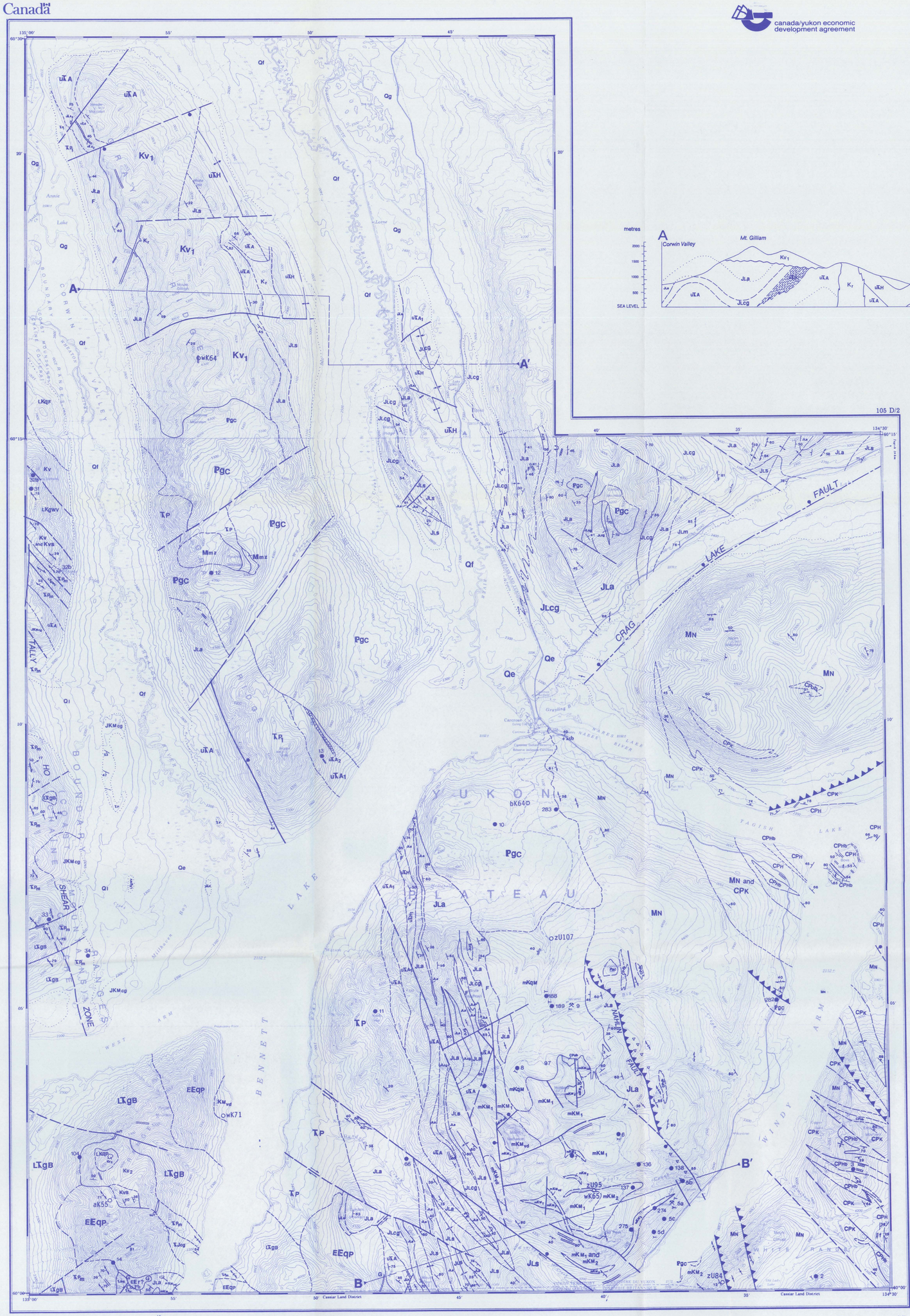
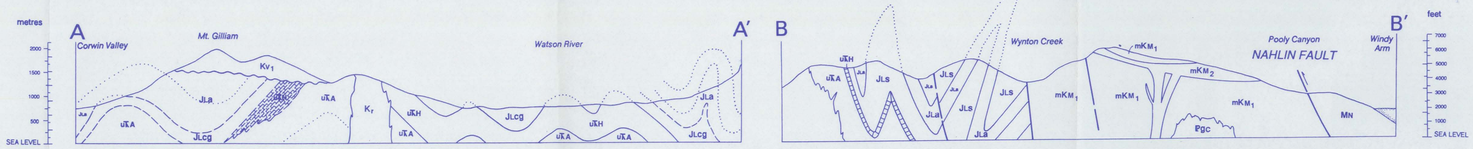
Canada

canada/yukon economic development agreement

Yukon

105 D/2





LEGEND

QUATERNARY

- **Qe** — Unconsolidated eolian sands and sand dunes
- **Qf** — Unconsolidated gravel, sand and silt of fluvial or glaciofluvial origin
- **Qi** — Unconsolidated gravel, sand, silt and varved clay of lacustrine or glaciolacustrine origin
- **Qg** — Unconsolidated glacial moraine, kame, esker and drift material

TERTIARY
EARLY EOCENE TO LATE PALEOCENE

NISLING RANGE PLUTONIC SUITE

- **EEqP** — **Pennington Granite:** grey weathering, coarse-grained biotite-hornblende granite with pink, megacrystic potassium feldspar; leucocratic to pink quartz monzonite phases (55 Ma, K-Ar)[1]
- **LPqcc** — **Crozier Creek Granite:** pale pink to orange brown weathering, medium- to coarse-grained leucocratic, biotite granite (60 Ma U-Pb)[1]
- **Pgc** — **Carcross Pluton:** Fine- to medium-grained, biotite-hornblende granite to leucocratic granodiorite with sparse, white, alkali feldspar phenocrysts (64 Ma K-Ar)[2]

MESOZOIC

- **Mmz** — Resistant, dark grey quartz monzonite and monzodiorite with common augite xenocrysts

CRETACEOUS
LATE CRETACEOUS

- **Kr** — Pale to rusty orange and pale green saccharoidal rhyolite and aplite plugs and dykes with common pink K-feldspar and quartz eyes; more siliceous and fractures more conchoidal than Er (64 Ma, 70 Ma, K-Ar)[1]
- **LKqF** — **Folle Mountain Stock:** pale pink weathering, medium- to coarse-grained, biotite, quartz-rich granite (78 Ma U-Pb)[1]
- **LKgwv1** — **Wheaton Valley Granodiorite:** dark grey weathering light grey, medium-grained, hornblende diorite, quartz diorite and lesser granodiorite; locally foliated (78 Ma U-Pb)[1]
- **LKqpp** — **Perkins Peak Plug:** pale pink weathering, white porphyritic alaskite and granite with plagioclase and quartz-eye phenocrysts in fine-grained mafic matrix; coarse-grained and mafic phases (70-97 Ma Rb-Sr)[1]

CARMACKS (?) GROUP

- **Kv** — **Wheaton River Volcanics:** dark grey to green and maroon, aphanitic and porphyritic andesite to dacite flows, heterolithic, breccia, agglomerate and associated epiclastic rocks (62-78 Ma K-Ar)[1]
- **Kv1** — **Grey Ridge Volcanics:** dark grey to pale grey-green and maroon, aphanitic and porphyritic andesite and dacite (?) flows, breccia, debris flows, agglomerate, and associated epiclastic rocks
- **Kv2** — **Finger Mountain Volcanics:** dark grey to blue grey, aphanitic and porphyritic, moderately well-bedded, vitreous andesite to rhyolite flows, breccia, and agglomerate
- **Kvs** — **Epiclastic Rocks:** light grey and buff weathering, well-bedded tuff and epiclastic greywacke with sandy tuff and minor limestone

MID-CRETACEOUS

MT. MCINTYRE PLUTONIC SUITE

- **mKqM** — **Montana Mountain Pluton:** orange weathering, medium-grained, biotite-hornblende granite; southern border phase is quartz-rich aplite (107 Ma U-Pb)[1]

MOUNT NANSEN GROUP
MONTANA MOUNTAIN VOLCANICS (88-94 Ma)

- **mKMvd** — Massive to brecciated, dark green to grey andesite plug domes and dykes; locally plagioclase porphyritic
- **mKM1** — Orange weathering, massive to locally flow banded, rhyolite tuff, pyroclastic and rhyolite flows (88 Ma U-Pb)[1]
- **mKM2** — Massive to poorly bedded, dark weathering, dark to pale green and maroon andesite and dacite flows, autoclastic, lithic tuff and epiclastic breccia; locally feldspar-phyric or with chlorite amygdules (95 Ma U-Pb)[1]

JURASSIC OR CRETACEOUS

- **JKMcg** — **Millhaven Conglomerate:** Polymictic, clast-supported conglomerate composed of sub-angular clasts of quartz, quartzite, schits, granite, chert and intermediate volcanics; minor sandstone, greywacke, and shale

JURASSIC
UPPER JURASSIC

- **uJT** — TANTALUS FORMATION (OXFORDIAN-KIMMERIDGIAN) Massive to thickly bedded chert pebble conglomerate with recessive, poorly indurated, gritty sandstone and quartz sandstone with interbedded dark grey shale

LOWER AND MIDDLE JURASSIC

LABERGE GROUP (HETTANGIAN? TO BAJOCIAN)

- **JLa** — Dark red-brown weathering, rhythmically and thinly bedded, tawny to dark green and grey, silty argillite, shale and siltstone; local hornfels; contains amminoid fossils and rare coaly plant fragments; minor interbedded massive sandstone and conglomerate
- **JLm** — Resistant, grey to brown, finely laminated phyllite
- **JLS** — Pale to dark orange weathering, dark grey, massive and thickly to medium bedded, medium to coarse-grained feldspathic and lithic greywacke with lesser arkose, arenite, and grit; uncommon argillite and conglomerate lenses
- **JLcg** — Rust-orange weathering, resistant, thickly bedded to massive, clast- and matrix-supported polymict cobble conglomerate; clasts of granitic rock and Lewes River Group volcanics with lesser schist, metamorphic quartz, limestone, and other sedimentary clasts; granitic clasts dominant higher in section; interbedded greywacke, arenite and argillite
- **TJcg** — Pale green, heterolithic, angular, poorly sorted basal conglomerate and clastic flows containing fragments of Bennett Granite, Nisling metamorphic rock and undifferentiated sedimentary rock

LATE TRIASSIC

- **LTgB** — **Bennett Granite:** pink, potassium feldspar megacrystic, hornblende granite to granodiorite; associated easterly trending mafic dyke swarms (220 Ma U-Pb)[2]

UPPER TRIASSIC

LEWES RIVER GROUP (CARNIAN TO SINEMURIAN)
AKSALA FORMATION

- **uKH** — **Hancock Member** (Norian): resistant, white to light grey weathering massive and thickly bedded limestone, bioclastic horizons and marble; minor socty black limestone and tan dolostone;
- **uKH1** — Resistant, thin, well-bedded, white limestone interlaminated with tan weathering, dark grey siltstone
- **uKA** — **Annie Member** (Karnian to Norian): Resistant, massive to moderately well-bedded, red, purple, and green matrix (and clast) supported agglomerate, pebble conglomerate, and lahaaric debris flows; clasts of augite porphyry and subvolcanic dacite porphyry with crystal-rich wacke matrix; interbedded arenite and minor tuff;
- **uKA1** — Andesite feldspar (and augite) porphyry flows, agglomerate and breccia; minor red siltstone;
- **uKA2** — Massive, grey, white to pink (commonly sheared or recrystallized) limestone and bioclastic limestone breccia; located near the base of this member

POVOAS FORMATION (CARNIAN AND OLDER?)

- **TP** — Resistant, massive light to dark green weathering, dark green to black, augite phyric basalt and basaltic andesite flows and breccia; minor well-indurated dark grey greywacke, agglomerate, tuff, and associated epiclastic rocks with thin carbonate beds.
- **TRj** — Resistant, massive dark green to black, variably altered, coarse-grained augite porphyritic basalt and breccia, commonly with coeval (?) hornblendite
- **TRm** — **Metamorphosed equivalent:** Foliated to massive pale to dark green plagioclase-hornblende amphibolite; laminated pale green quartzofeldspathic gneiss and massive amphibolite with relict augite phenocrysts; marble and rare quartzite

PALEOZOIC
CARBONIFEROUS AND PERMIAN

CACHE CREEK GROUP

- **CPub** — Ultramafic rocks: Red-brown weathering, massive to foliated, dark green to black bodies of serpentinized dunite and harzburgite, peridotite, and microgabbro; may be Mississippian in age and coeval with M_N

HORSEFEED FORMATION

- **CPH** — Massive, dark green, altered (spilitized), aphanitic and amygdaloidal basalt sills, dykes and dark brown pillow basalt flows; coeval and possibly younger than Kedahda and Horsefeed Formations
- **CPHb** — Massive to poorly bedded, medium-grained, recrystallized white to pale yellow limestone and crinoidal bioclastic limestone; rare dolostone

KEDAHDA FORMATION

- **CPK** — Resistant, well-bedded, grey, black, red and brown chert, with lesser cherty sandstone and siltstone; minor thin limestone beds and pillow lava

NAKINA FORMATION

- **MN** — Resistant, massive, dark weathering, altered, fine-grained, dark green metabasite with hornblende diorite with thin bands of grey chert and carbonate; irregular occurrences of ultramafic rock

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[3] 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.

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SYMBOLS

- Limit of outcrop
- Geological boundary (defined, approximate, assumed)
- Bedding (top known, tops unknown)
- Facies change
- Dyke (inclined, vertical)
- Schistosity (foliation,cleavage, or gneissosity)
- Mineral lineation
- Shear band
- Anticline, syncline
  - upright
  - overturned
- Fault (defined, approximate, covered; ball on down dropped side)
- Thrust fault (defined, approximate, covered; teeth on upper plate)
- Fault (transcurrent)
- Adit — aK136
- Locality of isotopic age determination — Material: amphibole, biotite, zircon, whole rock — a,b,z,w; Method: U-Pb, K-Ar, Rb-Sr — U,K,R
- Cross section line — A A'
- Fossil, microfossil locality — F, f
- Mine or past producer (Numbers refer to INAC Yukon Exploration volume) — 134
- Mineral occurrence (Numbers refer to INAC Yukon Exploration volume) — 283; G
- Gossan
- Breccia

MINERAL OCCURRENCES

YEX Number	NAME	Commodity
2	LULU	Ag,Au,Cu
3	MILLET	Cu
5a	VENUS	Au,Ag,Pb,Zn
5b	VAULT	Au,Ag,Pb,Zn
5c	EXTENSION	Au,Ag,Pb,Zn
5d	NIPPER	Au,Ag,Pb,Zn
6	MONTANA(MOUNTAIN HERO)	Au,Ag,Pb,Zn
7	THISTLE(AURORA)	Au,Ag,Pb,Zn
8	JEAN	Au,Ag
9	ARTIC CARIBOU(BIG THING)	Au,Ag
10	CARCROSS	Cu,Mo
11	KNOB HILL	Cu
12	WABONA	Zn
13	COLLEGE GREEN	Cu
14	FINGER	Cu
31	BUFFALO HUMP	Au,Ag,Pb
32a	MT. STEVENS - ACME	Au,Ag
32b	MT. STEVENS - MIDNIGHT	Au,Ag,Pb
33	CROMWELL	Ag,Pb,Cu
34	MILLHAVEN	Ag,Pb,Zn
66	RAILROAD	Ag
97	ART(ROOTS)	Au,Ag,Pb
104	BEN	Au,Ag
136	JOE PETTY	Au,Ag,Au
137	URANUS	Au,Ag,Pb
138	M+M	Au,Ag,Pb
188	PEERLESS	Au,Ag,Pb
189	PRIDE OF YUKON	Au,Ag,Pb
274	RUBY SILVER(RED DEER)	Ag,Pb
275	HUMPER	Ag,Pb
282	CONRAD	Mo
283	MARKMOLY	Mo

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

GEOLOGICAL MAP OF CARCROSS (105D/2) AND PART OF ROBINSON (105D/7) MAP AREAS

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

to accompany

OPEN FILE REPORT 1990-4

Geology of Whitehorse, Alligator Lake, Fenwick Creek, Carcross and part of Robinson map areas (105D/11,6,3,2,7); C.J.R. Hart and J.K. Radloff of Aurum Geological Consultants, Inc.

Funded by Canada-Yukon Economic Development Agreement (Contract YEDA 01/87)

CARCROSS
YUKON TERRITORY BRITISH COLUMBIA
TERRITOIRE DU YUKON COLOMBIE-BRITANNIQUE

Scale 1:50 000 Échelle

Miles 1 0 1 2 3 Miles
Metres 1500 0 1000 2000 3000 4000 Mètres

CONVERSION SCALE FOR ELEVATIONS
Metres 30 20 10 0 50 100 150 200 250 300 Metres
Feet 100 50 0 100 200 300 400 500 600 700 800 900 1000 Feets

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

ÉQUIDISTANCE DES COURBES 100 PIEDS
Altitudes en pieds
Système de référence géodésique nord américain 1927
Projection transverse de Mercator

Use diagram only to obtain numerical values.
APPROXIMATE MEAN DECLINATION 1981
FOR CENTRE OF MAP
Annual change decreasing 5.1

Index to adjoining Maps of the National Topographic System