



LEGEND

- QUATERNARY**
 - Qf Unconsolidated gravel, sand and silt of fluvial or glacial/fluviol origin
 - QI Unconsolidated gravel, sand, silt and varved clay of lacustrine or glaciolacustrine origin
 - Qg Unconsolidated glacial moraine, kame, esker and drift material
- TIERTARY**
 - MIOCENE-PLIOCENE**
 - MPMc Miles Canyon Basalt: Dark red to brown weathering, columnar jointed olivine basalt flows commonly amygdaloidal and vesicular with ultramafic xenoliths (8.8 Ma; 2.4 Ma, both K-Ar)
 - EARLY EOCENE**
 - EEr Flaggy, orange, rusty orange, to white orange, mauve or tan, fine-grained *trondhjemite* dykes, dyke swarms, and flow domes; composite dykes are common
 - EARLY EOCENE TO LATE PALEOCENE**
 - EEqC Jackson Creek Granite: light grey weathering, coarse-grained, smoky-quartz eye biotite granite; leucocratic with white potassium feldspar (55 Ma U-Pb)
 - EEqI Ibez Alaskite: light pink to buff weathering, microlitic, fine- to medium-grained *andesite* (58 Ma U-Pb)
 - LPqcc Crozier Creek Granite: pale pink to orange brown weathering, medium- to coarse-grained leucocratic, biotite granite (50 Ma U-Pb)
 - LKqP IBEX FORMATION: Dark, vitreous flow-banded rhyo-dacite flows with sparse feldspar phenocrysts and welded tuff, thymoly contains granitic fragments; older than Ibez Alaskite and unconformably (?) below Butte Creek Fm.; may be part of Skukum Group.
 - CRETACEOUS**
 - MID-CRETACEOUS**
 - MT. MCINTYRE PLUTONIC SUITE
 - Mt. McIntyre Pluton: pale orange weathering, fine- to medium-grained, pink granophyric with phases of quartz monzonitic granite and monzoniorite; xenoliths common along margins (109 Ma U-Pb)
 - Granite Phase: medium-grained, euhedral biotite granite to granodiorite border phase
 - WHITEHORSE PLUTONIC SUITE
 - Whitehorse Pluton: dark grey weathering, medium-grained biotite-hornblende granodiorite, tonalite, and diorite with common mafic xenoliths and local weak foliation (116 Ma K-Ar)
 - Ibez River Gabbro: dark grey, coarse-grained, mesocratic, often strongly magnetic, hypersthene-hornblende diorite, quartz diorite, and gabbro (109 Ma U-Pb)
 - 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
 - uJtm Recessive weathering, highly fractured, high ash anthracite to low volatile bituminous coal
 - uJv Rusty weathering, blue-grey andesite porphyry flows and breccia
 - LOWER AND MIDDLE JURASSIC**
 - LABERGE GROUP (HETTANGIAN? TO BAJOCIAN)
 - JLb Dark red-brown weathering, rhythmically and thinly bedded, tawny to dark green and grey, silty argillite shale and siltstone; local hornfels; contains ammonoid fossils and rare coaly plant fragments; minor interbedded massive sandstone and conglomerate
 - 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
 - JLc 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
 - LATE TRIASSIC**
 - LXgf Friday Creek Diorite: foliated, fine- to medium-grained hornblende quartz diorite to diorite with minor biotite (211 Ma U-Pb)

- UPPER TRIASSIC**
 - LEWES RIVER GROUP (CARNIAN TO SINEMURIAN)
 - AKSALA FORMATION
 - Mandanna Member (Late Norian to Early Sinemurian): Red, purple, green and grey, medium bedded to massive, crystal-rich greywacke and shale; minor interbedded pebble conglomerate and red, bioturbated siltstone. Equivalent facies include:
 - uKM Coarse-grained, tan to brown, massive, lithic arenite; minor angular clast conglomerate, argillite and shale.
 - uMm Well-bedded, red to maroon, poorly indurated, bioturbated siltstone with crystal-rich greywacke.
 - uKH Hancock Member (Norian): resistant, white to light grey weathering massive and thickly bedded limestone; bioclastic horizons and marble; minor sooty black limestone and tan dolostone.
 - uMh Resistant, thin, well-bedded, white limestone interlaminated with tan weathering, dark grey siltstone.
 - uKA Annie Member (Carnian to Norian): Resistant, massive to moderately well-bedded, red, purple, and green matrix (and clast) supported agglomerate, pebble conglomerate, and laharic debris flows; clasts of agite porphyry and subvolcanic dacite porphyry with crystal-rich wacke matrix; interbedded arenite and minor tuff.
 - uKA1 Andesite feldspar (and agite) 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 agite phryic basalt and basaltic andesite flows and breccia; minor well-indurated dark grey greywacke, agglomerate, tuff, and associated epiclastic rocks with thin carbonate beds.
 - TPm Metamorphosed equivalent: Foliated to massive pale to dark green plagioclase-hornblende amphibolite; laminated pale green quartzofeldspathic gneiss and massive amphibolite with relict agite phenocrysts, marble and rare quartzite

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COMPILATION SOURCES

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- WHEELER, J.O., 1961. Whitehorse map-area, Yukon Territory, 105 D. Geol. Surv. Can. Memoir 312 (includes Map 1093), 156 p.

SYMBOLS

- Limit of outcrop.....
- Geological boundary (defined, approximate, assumed).....
- Bedding (top known, tops unknown).....
- Primary igneous flow banding.....
- Facies change.....
- Dyke (inclined, vertical).....
- Schistosity (foliation or gneissosity).....
- Anticline, syncline.....
- Fault (defined, approximate, covered; ball on down dropped side).....
- Thrust fault (defined, approximate, covered; teeth on upper plate).....
- Adit.....
- Locality of isotopic age determination.....
- Igneous, metamorphic, sedimentary rock.....
- Material: amphibole, biotite, zircon, whole rock.....
- Method: U-Pb, K-Ar, Rb-Sr.....
- Cross section line.....
- Fossil, microfossil locality.....
- Mine or past producer (Numbers refer to INAC Yukon Exploration volume).....
- Mineral occurrence (Numbers refer to INAC Yukon Exploration volume).....
- Volcano.....
- Lineament.....
- Gossan.....
- Breccia.....

MINERAL OCCURRENCES

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
81	RABBIT FOOT	Cu
192	PUEBLO	Cu, Fe, Ag
193	RESERVOIR LAKE	Mo, W
194	SHEELITE	W
195	COPPER KING	Cu, Mo, Au, Ag
196	CARLSLE	Cu, Mo, Ag
197	SPRING CREEK	Cu
198	EMPRRESS OF INDIA	Cu
199	RETRIBUTION	Cu, Fe
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	QUINALTA	Cu, Fe
275	GUILCH	Cu
280	IBEX	COAL

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

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

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

to accompany
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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.

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WHITEHORSE
YUKON TERRITORY

Scale 1:50 000 Echelle

