



NORTHERN DAWSON RANGE, CENTRAL YUKON (115 J/9 & 10; 115 I/12)



SYMBOLS

Quaternary	Geological contact (defined, assumed)	Fault (defined, assumed)	Igneous foliation	Schistosity	Lineation	Syncline (upright, overturned)	Anticline (upright, overturned)	Bedding	Placer mine (lower left of 115 I/12)	Isotopic Age Determination (number indicates reference)	biotite	hornblende	zircon	mineral-whole rock isochron	initial Sr
Qg										36	bi	hb	Zr	MN-WR	Sr-1

PLUTONIC ROCKS

LATE CRETACEOUS	PROSPECTOR MOUNTAIN PLUTONIC SUITE
LKP	Undifferentiated shallow-level intrusions
LKp	heterogeneous array of quartz feldspar, leucocratic, medium grained, leucocratic potassic syenite, and mafic dykes and sills; locally level intrusions including LKpD - grey to black weathering, dark grey, aphanitic, flow banded, cherty, foyolite and dacite plugs; LKpI - latite-dacite dykes and plugs.
LkP	Light brown to orange weathering, blue-grey, massive, equigranular, medium grained, leucocratic potassic syenite, and mafic dykes and sills; locally level intrusions including LKpD - grey to black weathering, dark grey, aphanitic, flow banded, cherty, foyolite and dacite plugs; LKpI - latite-dacite dykes and plugs.
LKmp	quartz-bearing monzonite (Mount Cockfield and associated stocks) and LKpP - aphanitic to fine grained andesite to latite dykes and green to pink feldspar porphyry (west of Hayes Creek)
LkUp	Dry weathering, dark green to black, spinel peridotite; potassic gabbro, monzodiorite, diabase
LKPC	CASINO INTRUSIONS PROSPECTOR MTN. - PLUTONIC SUITE
LKpC	fine, to medium grained leucocratic, locally porphyritic, quartz-monzonite to aplite
LKpC	breccia pipes and fine to coarse breccia

MID-CRETACEOUS

DAWSON RANGE BATHOLITH	
mKd	undifferentiated orthogneiss. Typically consists of white to orange weathering, light grey to pink, fine to coarsely crystalline, leucocratic hornblende, biotite and leucocratic quartz monzonite, granite, feldspar porphyry and quartz porphyry.
mKd	biotite rich, leucocratic quartz-monzonite to granite
mKpD	biotite-hornblende granodiorite
mKpD	hornblende-biotite potassic quartz-diorite and hornblende-biotite diorite

EARLY JURASSIC

MINTO PLUTONIC SUITE	
EJgm	grey weathering, grey, medium to coarse grained, granodiorite, diorite and EglmI - leucocratic granodiorite

QUATERNARY

Qg	Undifferentiated, unconsolidated gravels, sands and clays, alluvium, landslides and glacial deposits.
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UPPER-CRETACEOUS

CARAMACKS GROUP	
UKC	undifferentiated intermediate to mafic, volcanic flows and pyroclastic deposits
UKCt	dark orange brown weathering, dark green grey to blue grey, massive and porphyritic mafic flows. Crude sub-vertical columnar jointing is commonly developed. Vesicular flow tops with chlorite, calcite and quartz amygdalites; interbedded with mafic flows.
UKCcbt	crystal lithic chert pebble volcanolaminate, red sandstone and mafic flows.
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UKc

UKc	pale orange weathering, grey, massive intermediate (andesitic) flows, interbedded with UKCt - pale grey to green grey, massive and porphyritic mafic flows.
UKC	orange brown weathering, grey to dark blue grey, lapilli and finer grained, pyroxene bearing mafic to intermediate tuff with minor volcaniclastic debris.
UKC	light grey, feldspar- and locally quartz-phyric andesite to latite flow, tuff and flow breccia (Mount Cockfield)

UKC

UKC	The Caribou Creek Conglomerate. Grey weathering, light to dark grey, fine to medium grained and weakly bedded, calcareous cobble conglomerate to coarse lithic sandstone. Includes UKCcbt - landslide, talus breccia
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DEVONO-MISSISSIPPIAN

WOLVERINE CREEK METAMORPHIC SUITE	
DMW	undifferentiated metaigneous and metasedimentary schist and gneiss
DMW	undifferentiated metaigneous schist and gneiss; includes augan orthogneiss
DMWp	Orange to grey weathering, grey green to dark grey, fine grained, biotite and biotite hornblende quartz diorite and diorite schist and gneiss. Includes DMWp based on biotite amphibole. Distal units from DMWp based on mafic orthogneiss.
DMWp	grey weathering, grey, medium to coarse grained, leucocratic, equigranular, hornblende and biotite hornblende quartz diorite, quartz monzonite and granodiorite orthogneiss
DMWp	green weathering, black to dark green, medium to coarse grained amphibolite and metabasite
DMWp	orange weathering, white, medium to coarse grained marble

DMW	undifferentiated mica-schist and quartzite. Includes DMWp in quartzite and mica-schist quartzite with subordinate mica-schist and rare mafic and DMWp - buff to brown weathering, grey, massive, medium grained, feldsparic, gneissic to mafic mica-schist and quartzite.
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MARGINAL NOTES

This compilation includes previously released data from 1:50,000 scale geology maps of 115 J/9 and 10 (Payne et al., 1987) and 115 I/12 (Johnston, 1993; Johnston and Hachey, 1993); and from 1:250,000 scale geology maps of 115 J (Templeman-Kluit, 1974) and 115 I (Templeman-Kluit, 1984). The existing maps have been updated to incorporate more recent isotopic age determinations, geochemical analyses and mapping. Data obtained from an Airborne Multi-parameter Geophysical Survey, which combined geophysical and geochemical data, were used to update the map (Johnston and Hachey, 1994a and b) and also been used to improve the map (Johnston and Shives, 1993).

All volcanic and sub-volcanic rocks previously interpreted as parts of the mid-Cretaceous Mount Nansen Group are now inferred to have been emplaced in the Late Cretaceous volcanic rocks included in the Caramacks Group and plutonic rocks in the Prospector Mountain Plutonic Suite. The Prospector Mountain Plutonic Suite was previously limited to the Prospector Mountain area (115 I/12, 1993). It is now interpreted as a heterogeneous suite which incorporates Late Cretaceous plutonic rocks throughout the Dawson Range. Late Cretaceous intrusions and dykes at Casino are called the Casino intrusions and are interpreted as a subset of the Prospector Mountain Plutonic Suite. Rhyolite and latite are thought to be isolated remnants of an early magmatic phase of Caramacks volcanism. Intermediate and mafic flows occur higher in the section and are more extensive.

Known mineralization in the northern Dawson Range is largely attributable to intrusions of the Late Cretaceous Prospector Mountain Plutonic Suite. Alteration haloes, geophysically characterized by low Th/K ratios and by total field magnetic highs, are commonly developed adjacent to intrusions of the suite. Examples include the CASINO, COCKFIELD and HAYES occurrences (Inac, 1993). Brecciation and mineralization is also spatially associated with late felsic intrusions of the mid-Cretaceous Dawson Range Batholith. Significant amounts of felsic and mafic metaigneous rocks within the Devonian-Mississippian Wolverine Creek Metamorphic Suite suggest potential for syngenetic SEDEX, Kuroko- and Desh-style mineralization.

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137°30'00"	62°45'	115 J/10	Colorado Creek, 1984	Payne et al. 1984
137°30'00"	62°45'	115 J/9	Selwyn River, 1984	Payne et al. 1984
137°30'00"	62°45'	115 I/12	Wolverine Creek, 1993	Johnston, 1993

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superscripted numbers indicate references for isotopic age determinations

THIS MAP ACCOMPANIES:

JOHNSTON, S.T. and SHIVES, R. B. K., 1995. Interpretation of an airborne multiparameter geophysical survey of the northern Dawson Range, central Yukon: A progress report. In: Yukon Exploration and Geological Services Division, Geological Survey of Canada, Indian and Northern Affairs Canada, p. 105 - 111.

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GEOLOGICAL COMPILATION WITH INTERPRETATION FROM GEOPHYSICAL SURVEYS OF THE NORTHERN DAWSON RANGE, CENTRAL YUKON (115 J/9 & 10; 115 I/12)

1:100,000-scale map

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Copies of this map, the accompanying report and Yukon Minifile 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 8B5. PH: 403-667-3204 Fax: 403-667-3198