DESCRIPTIVE NOTES

INTRODUCTION

Bedrock geology of northeast Stevenson Ridge area consists of metamorphosed and poly-deformed Paleozoic basement intruded and overlapped by relatively little-deformed Mesozoic and Tertiary successions. In this generally unglaciated terrain (Duk-Rodkin, 1999), exposures on the broad upland ridges are limited to scattered tors separated by extensive frost-shattered felsenmeer. Outcrop is rarely found in the heavily forested valleys. Extension of geological elements beneath cover, however, has been aided by recent aeromagnetic surveys (http://gdr.nrcan.gc.ca/aeromag). The present work has also benefitted from observations outlined in Payne et al. (1987), Tempelman-Kluit (1974), Johnston (1995) and Colpron (2006). Current work in the northern parts of Stevenson Ridge area is published as two adjoining 1:100 000 scale maps covering northwestern (NTS 115-K, J; Ryan et al., 2013) and northeastern sections respectively (parts of NTS 115-J, I, P and O; this sheet). Mapping and compilation of northeast Stevenson Ridge area overlaps and supersedes interpretations published in Gordey and Ryan (2005) and Ryan et al. (2010).

GEOLOGICAL FRAMEWORK

Yukon-Tanana Terrane

The oldest parts of Yukon-Tanana terrane (YTT), the polydeformed and metamorphosed basement, consist of the pre-Devonian Snowcap assemblage of mostly amphibolite facies siliciclastic rocks including quartzite, micaceous quartzite and psammitic quartz-muscovite-biotite (± garnet) schist (unit PDSA1). Marble (unit PDSA2) occurs as decametre-thick lenses. Interlayered amphibolite and garnet amphibolite, the metamorphosed equivalents of mafic sills and dykes are also common.

The Snowcap assemblage is locally in structural contact with massive amphibolite and coarse hornblende-garnet-plagioclase garbenschiefer correlated to the Devonian to Mississippian Finlayson assemblage (unit MF). These rock types are locally preserved as rafts and xenoliths within the Simpson Range suite (see following). Finlayson assemblage rocks are more widely distributed in Stewart River map area to the north (Gordey and Ryan, 2005).

In the southwest part of the area the Late Devonian-Early Mississippian Stevenson Ridge schist (unit MSRS) forms a monotonous sequence of grey to black, carbonaceous quartzite, psammite and phyllite. Protoliths likely included carbonaceous, siliceous shale, pelite and chert. The graphitic, quartz-rich composition, general lack of aluminous mica schist and absence of marble distinguishes the Stevenson Ridge schist from the Snowcap assemblage, as well as from the Scottie Creek formation in the northwestern Stevenson Ridge area (Ryan et al., 2013).

Early Mississippian Simpson Range suite (unit MSR; ca. 346 Ma: N. Joyce, unpublished data) is extensive in the northeast third of the area and small outliers are present south of the Yukon River. The Simpson Range suite is characterized by highly foliated to gneissic hornblende-biotite and biotite granodiorite. The granodiorite is interlayered with foliated to gneissic monzogranite, diorite, and amphibolite. The Mississippian age distinguishes the Simpson Range suite from the Devonian Mt. Baker suite in the White River assemblage (Ryan et al., 2013). Simpson Range suite gabbro and diorite are locally difficult to distinguish from Finlayson assemblage amphibolite. The Simpson Range suite is thrust over the Snowcap along the Yukon River thrust (see below); however, regionally it is known to intrude the Snowcap assemblage (eg., Gordey and Ryan, 2005; Ryan et al., 2010).

The Snowcap and Finlayson assemblages are intruded by K-feldspar porphyroclastic augen granite of the Permian Sulphur Creek suite (unit PKSC; ca. 260 Ma: N. Joyce, unpublished data). An extrusive equivalent, the Permian Klondike schist (unit PK1), which is prevalent in the adjoining map sheet to the west (Ryan et al., 2013), occurs as a single small locality on this map. Permian magmatism is herein shown to be more widespread than previously assumed, and extends east-southeast from the Alaska border in southwest Stewart River map area (Gordey and Ryan, 2005) 180 km to Carmacks map area.

Stikinia/Quesnellia

In contrast to their metamorphosed and deformed substrate, Mesozoic rocks in the area lack evidence of regional polyphase deformation and metamorphism. Several Mesozoic suites and their extrusive equivalents represent a Mesozoic arc (Stikinia/Quesnellia) built upon the Paleozoic basement. The Late Triassic Pyroxene Mountain suite (unit uTPM; ca. 220 Ma: M. Villeneuve, unpublished data) occurs only in the northern part of the map area, exclusively as sills and plugs in the Simpson Range suite. The type locality at Pyroxene Mountain comprises massive, coarse-grained, equigranular clinopyroxenite that is locally completely replaced by hornblende. The replacement is locally accompanied by formation of gabbro, gabbro pegmatite, diorite and granodiorite pods and veins. The northern margin of the pluton is marked by a shear zone that separates it from the Jurassic Walhalla Creek pluton of the Aishihik suite (unit EJA).

The Late Triassic Semenof Formation (unit uTS) is extensive in the northeast quadrant of the map. It comprises augite-phyric andesite to dacite volcanic flows, tuff and volcaniclastic rocks. Cleavage is locally well-developed, but metamorphism does not exceed sub-greenschist facies (Colpron and Ryan, 2010). Considered correlative with Povoas Formation of the Lewes River Group, these Late Triassic rocks represent a volcanic arc built on YTT.

The Aishihik suite (unit EJA) in the eastern part of the area, is characteristically coarse grained, equigranular or alkali-feldspar porphyritic biotite ± hornblende granodiorite to monzogranite (locally quartz monzonite and quartz monzodiorite). Aishihik suite plutons commonly exhibit strong magmatic foliation and locally a well-developed solid-state foliation. Regionally, Aishihik suite granites exhibit primary magmatic epidote, thought to be indicative of crystallization at mid-crustal depths. However, in many localities this is difficult to confirm due to presence of extensive secondary epidote within clots of mafic minerals and along fractures. The Aishihik suite stitches and obscures much of the contact between the Semenof Formation and the YTT in this map area.

Mesozoic-Tertiary successor rocks

Mid-Cretaceous to Tertiary plutonic, volcanic and sedimentary successions indicate renewed arc- and extension-related magmatism superimposed on the older Paleozoic basement and early Mesozoic arc (Stikinia-Quesnellia).

The central core of the northeast Stevenson Ridge area is transected by the Middle Cretaceous Whitehorse suite, which is made up of two distinct phases. The more voluminous Dawson Range phase (unit mKW2) (a.k.a. Dawson Range batholith) is composed of white to beige, hornblende-biotite granodiorite and lesser granite, tonalite, quartz diorite, and diorite. It is characteristically blocky weathering, hornblende-phyric and medium- to coarse-grained. Foliation is weak to absent. The less voluminous Coffee Creek phase (unit mKW1) (a.k.a. Coffee Creek granite) is composed of unfoliated pink to beige, biotite monzogranite. It is medium- to coarse-grained, characterized by smoky quartz phenocrysts, and is locally pegmatitic. The Dawson Range and Coffee Creek phases generally occur as distinct plutons. Where locally in contact their boundary is transitional and poorly defined. The Whitehorse suite intrudes the Moose Creek thrust, the fundamental boundary (terrane boundary?) separating markedly different tectonic elements of YTT and the White River assemblage (Ryan et al., 2013).

Mount Nansen Group (unit mKMN), coeval with the Whitehorse suite (unit mKW), includes massive aphyric and feldspar-phyric andesite to dacite breccias, flows and tuff, flow-banded quartz-phyric rhyolite, and quartz-feldspar porphyry plugs and dykes (Carlson, 1987). Mount Nansen Group locally contains granitic clasts probably derived from the Whitehorse suite. Mount Nansen Group is present near the south side of the map sheet suggesting that the mid-Cretaceous rocks are exposed in a tilted section and are more deeply exhumed to the north.

The late Cretaceous Casino suite (unit uKCS; ca. 74 to 77 Ma: Selby and Creaser, 2001, Bennett et al., 2010) comprises sparse, small volume porphyritic quartz monzonite to dacite plutons that host Cu-Au porphyry mineralization in the area (e.g., Casino, Sonora Gulch, Revenue). Casino suite intrusions are fine- to medium-grained, and alkali feldspar-plagioclase-biotite-quartz-phyric. At the Casino Cu-Mo deposit, a distinct matrix-supported heterolithic breccia is interpreted as partly explosive and partly intrusive, because it contains clasts of both Casino and Whitehorse suites, as well as from the YTT. The Prospector Mountain suite (unit uKPM; 68-70 Ma: W. Ciolkiewicz, unpublished data) is largely coeval with the Casino suite. The Prospector Mountain suite is characterized by light grey to pink alkali feldspar-biotite-hornblende porphyritic, fine to medium grained quartz monzonite dykes, sills and hypabyssal plugs. This suite has been investigated for porphyry- and epithermal-style gold mineralization (e.g., Prospector Mountain, Mount Cockfield). The co-linear alignment of Prospector Mountain, Casino and Whitehorse suites suggest that Middle to Late Cretaceous magmatism and associated mineralization is spatially coincident with and possibly controlled by an older, crustal-scale structure such as the Moose Creek thrust.

The Colorado Creek conglomerate (unit muKCC) unconformably overlies the Stevenson Ridge schist and mid-Cretaceous Whitehorse suite. Metamorphic clasts predominate in the conglomerate, but a significant proportion includes Mount Nansen volcanic and Whitehorse suite clasts. Carmacks basalt clasts are absent from the conglomerate. The unit probably correlates with the Caribou Creek conglomerate of Carlson (1987).

The Late Cretaceous Carmacks Group (unit uKC; ca. 70-69 Ma) comprises an intermediate to mafic volcanic and volcaniclastic lower sequence, and a more mafic, flow-dominated upper sequence. Basalt to andesite flows, sills, and tuff-breccia are the most abundant rock type, and are in part coeval with the Prospector Mountain suite. Carmacks Group volcanic rocks overlie the Colorado Creek conglomerate. The Carmacks Group is widespread throughout west central Yukon.

The Paleogene Rhyolite Creek complex (unit PRC; ca. 59-56 Ma: N. Joyce, unpublished data) constitute small erosional remnants and intrusions in the southwest part of the area. Quartz- (generally smoky) and feldspar-porphyritic dykes predominate, with less common flow-banded rhyolite and locally grey green to mauve andesitic volcanic to hypabyssal rocks. These are easily confused with similar looking hypabyssal varieties of the Casino suite and the Coffee Creek phase. The andesitic rocks, commonly hornblende-plagioclase porphyritic, are difficult to distinguish from those of the Carmacks Group.

Latest Tertiary to Quaternary Selkirk Group (unit TQS) consists of vesicular and olivine porphyritic basalt. These flows and breccias occupied some modern drainages near the eastern edge of the map area. Remnant outcrops on valley walls are characterized by high magnetic susceptibility and where covered by recent sediments are revealed by strong positive aeromagnetic anomalies.

STRUCTURAL GEOLOGY

A variety of mesoscopic structural styles are observed across the area. The central belt of the Yukon-Tanana terrane is characterized by at least two phases of isoclinal folding and development of transposition foliation. The main foliation observed in these rocks developed at upper greenschist – amphibolite facies conditions and may represent a second generation fabric. This second regionally pervasive foliation is present in Permian and older rocks, and is thought to have developed in the Late Permian (Berman et al., 2007). This dominant foliation is itself deformed locally by less pervasive open F3 and F4 folds.

Small lenses of harzburgite, dunite, orthopyroxenite, serpentinite, talc-tremolite schist and listwaenite occur in the Snowcap assemblage and along the southwestern edge of the Klondike schist to the west (Ryan et al., 2013), and help demarcate crustal scale structural breaks. One of these lenses, the Buffalo Pitts peridotite south of Hayes Creek, is interpreted to represent exhumed mantle that was tectonically interleaved with Snowcap quartzite in the Permian (Johnston et al., 2007). The Moose Creek thrust highlighted by Ryan et al. (2013) is thought to represent a terrane boundary between amphibolite facies White River assemblage and greenschist facies Klondike schist of YTT, is dotted with lozenges of harzburgite, and is interpreted as being post-Late Triassic, and pre-Mid Cretaceous.

Another regional-scale compressional structure in the area is the Yukon River thrust. Simpson Range suite rocks in the hanging wall of the Yukon River thrust are emplaced on Snowcap assemblage schist and Sulphur Creek suite metaplutonic rocks. Because the Pyroxene Mountain suite is restricted to the hanging wall of the Yukon River thrust, it suggests that motion on the thrust was post-Late Triassic. The outliers of Simpson Range suite that lie to the south of the main Yukon River thrust are probably also structurally bound, however, poor exposure does not preclude that their contacts might be intrusive. The Yukon River thrust is a regional scale thrust within YTT.

The open folds of the Permian fabrics (above) are defined by an axial planar crenulation cleavage that likely developed during episodes of Triassic and/or Jurassic contraction. The Early Mesozoic thrust faults and Cretaceous rocks were overprinted by Middle to Late Cretaceous strike slip and normal faults. These structures appear to have long strike length, but not necessarily significant offset. This is suggested by modest vertical displacements of the sub-Carmacks Group unconformity and small horizontal displacements of unit boundaries along strike-slip faults (e.g., along Hayes Creek, or east of Mount Pattison). In the northeast corner of the map, strike slip faults are probably related to Cretaceous dextral displacement along the northwest-trending Teslin fault system (Colpron and Ryan, 2010). Locally, Paleogene volcanics overly faults, indicating that most fault displacement in the map are probably complete by Paleogene time.

MINERALIZATION.

No definitely syngenetic occurrences are recognized in the area covered by this map, although felsic and amphibolite rock types within the Finlayson assemblage rocks of YTT have regional VMS potential (Colpron et al. 2006). A new occurrence discovered by Arcus Development Group near Touleary Creek, at the maps northern margin, may be an exception in that it exhibits possible VMS characteristics; however it remains to be demonstrated if it resides in Mississippian or Permian stratigraphy.

Granodiorite and monzogranite intrusions of the Aishihik suite on the eastern side of the map represents the northwest extension of the Minto pluton, which is host to the high-grade Cu-Au deposit of the Minto mine, and this deserve exploration interests for Minto style mineralization.

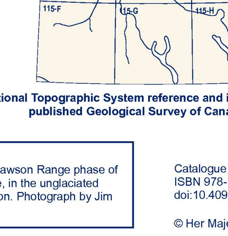
The majority of occurrences of interest for gold potential in the area are aligned with Cretaceous structures. Big Creek fault appears to offset the Yukon River thrust, and marks the southwest side of the Isaac Hayes pluton. To the southeast, the Big Creek fault may have focused lode gold mineralization at Sonora Gulch, and its northwest extension approaches the Whitegold property in southern Stewart River map area. As stated earlier, the late Cretaceous Casino suite hosts significant potential for Cu-Au porphyry mineralization, and the Prospector Mountain suite has been investigated for porphyry- and epithermal-style gold mineralization. No mineralization has yet been recognized in the Rhyolite Creek complex within the map area.

Abstract

The northeastern Stevenson Ridge map sheet (parts of NTS 115-J, I, P and O) is underlain by Paleozoic to Paleogene rocks that locally host Cu-Au porphyry and Au mineralization. The southwestern part of the area is dominated by the mid-Cretaceous Whitehorse plutonic suite which forms the backbone of the Dawson Range Mountains. The north side of the Dawson Range comprises rocks typical of the Yukon-Tanana terrane, including a belt of Permian Klondike schist (metavolcanic rocks), Permian Sulphur Creek plutonic suite and pre-Devonian Snowcap assemblage metasedimentary rocks. The northeast side of the area is dominated by the Mississippian Simpson Range plutonic suite that is intruded by the Triassic Pyroxene Mountain suite and early Jurassic Aishihik suite. The Mississippian to Jurassic rocks are thrust over the Snowcap assemblage along the post-Triassic Yukon River thrust. Late Cretaceous and younger faults occur throughout the area but have only modest offsets.

Résumé

La partie nord-est de la région du chaînon Stevenson (SNRC parties de 115-J, I, P et O) renferme des roches d'âge paléozoïque à paléogène qui encaissent localement une minéralisation porphyrique en Cu-Au ou une minéralisation aurifère. La partie sud-ouest de cette région est dominée par la suite plutonique de Whitehorse, datant du milieu du Crétacé, qui forme l'épine dorsale de la chaîne de Dawson. Le versant nord de cette chaîne de montagnes est constitué de roches typiques du terrane de Yukon-Tanana, dont une zone linéaire de schiste de Klondike (roches métavolcaniques d'âge permien) et des roches de la suite plutonique de Sulphur Creek, également d'âge permien, ainsi que des roches métasédimentaires de l'assemblage de Snowcap, antérieures au Dévonien. La partie nord-est de la région est dominée par la suite plutonique de Simpson Range (Mississippien), qui a été pénétrée par la suite de Pyroxene Mountain (Trias) et la suite d'Aishihi (Jurassique précoce). Les roches d'âge mississippien à jurassique chevauchent l'assemblage de Snowcap le long du chevauchement de Yukon River, postérieur au Trias. Des failles d'âge crétacé tardif ou plus récentes sont présentes dans toute la région, mais les déplacements qui leur sont associés sont minimes.



National Topographic System reference and index to adjoining published Geological Survey of Canada maps

Cover illustration
Large tors of granite in the Dawson Range phase of the Whitehorse plutonic suite, in the unglaciated Yukon Plateau, western Yukon. Photograph by Jim Ryan. 2013-059

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2nd EDITION

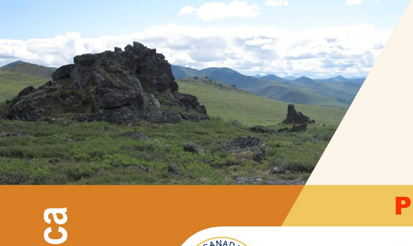
CANADIAN GEOSCIENCE MAP 116

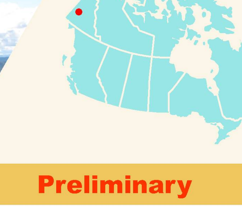
GEOLOGY

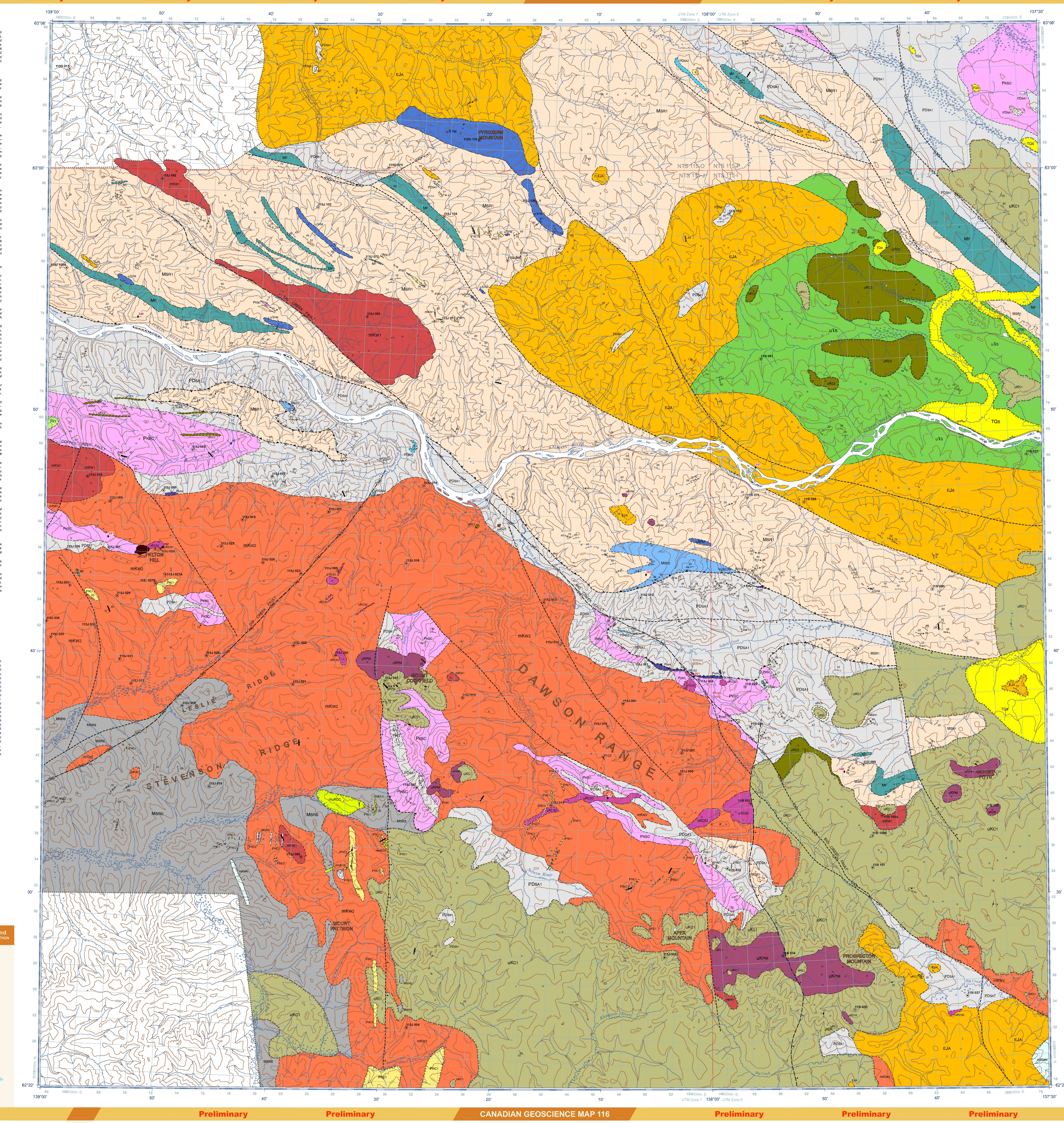
STEVENSON RIDGE (NORTHEAST PART)

Yukon

1:100 000







TERTIARY - QUATERNARY

TQS	**Selkirk Volcanics:** mafic volcanic flows, subaerial; commonly vesicular, with fresh olivine and xenoliths of peridotite; typically occupies valleys and low-lying areas.

PALEOGENE

Rhyolite Creek complex (PRC1, PRC2)

PRC1	Felsic rocks: tan to cream rhyolite dykes, flows, sills, crystal and ash tuff; smoky quartz ± feldspar porphyritic; locally flow-banded.
PRC2	Intermediate to mafic rocks: grey green to mauve andesitic tuff breccia, massive flows, dykes and sills; hornblende-plagioclase porphyritic.

UPPER CRETACEOUS

uKPM	**Prospector Mountain suite:** light grey to pink quartz monzonite dykes, sills and hypabyssal plugs; massive to alkali feldspar-, biotite- and hornblende-phyric; fine- to medium-grained; locally forms matrix of polymictic breccia.

Carmacks Group (uKC1, uKC2, uKC3).

uKC1	Dominantly upper Carmacks Group, locally includes lower Carmacks Group: dark green to dun basalt, basaltic andesite, trachy-andesite and andesite flows, sills, and tuff-breccia; clinopyroxene-, orthopyroxene-, olivine- and/or hornblende-porphyritic; typically vesicular. Locally interbedded with polymictic boulder conglomerate derived from immediate basement.
uKC2	Lower Carmacks Group: grey to green weathering andesitic ash and crystal-lithic tuff, and agglomerate, with minor dacite; pale-orange to grey weathering massive andesite flows; hornblende-, pyroxene- and plagioclase-porphyritic.
uKC3	Clastic rocks: maroon to grey-green conglomerate, laminated sandstone and siltstone interlayered with epiclastic sandy tuff.

Casino suite (uKCS1, uKCS2)

uKCS1	Heterolithic breccia: matrix-supported; contains clasts of units uKCS2 and mKW2, and metamorphic rocks; intrusive or explosive origin.
uKCS2	Porphyry: quartz monzonite to dacite; fine to medium grained; alkali feldspar-, plagioclase-, biotite- and quartz-porphyritic.

MIDDLE TO UPPER CRETACEOUS

muKCC	Colorado Creek conglomerate: polymictic, wherein boulders derived from dominantly metamorphic rocks, Whitehorse suite, and Mount Nansen Group. Unit may be a subset of unit uKC3.

MIDDLE CRETACEOUS

mKMN	**Mount Nansen Group:** massive aphyric and feldspar-phyric andesite to dacite breccias, flows and tuff; massive heterolithic quartz and feldspar-phyric felsic lapilli tuff; flow banded quartz-phyric rhyolite; quartz-feldspar porphyry plugs and dykes. Contains granitic clasts probably derived from consanguineous Whitehorse suite.

Whitehorse suite (mKW1, mKW2)

mKW1	Coffee Creek phase: pink to beige biotite monzogranite; medium- to coarse-grained, characteristically smoky quartz bearing, locally pegmatitic. Locally transitional to Dawson Range phase (mKW2).
mKW2	Dawson Range phase: white to beige hornblende-biotite granodiorite, lesser granite, tonalite, quartz diorite, and diorite; blocky hornblende-phyric, medium- to coarse-grained; unfoliated to weakly foliated. Commonly contains hornblende porphyritic diorite enclaves and rare orthoclase megacrysts.

MESOZOIC-CENOZOIC SUCCESSOR ROCKS

EARLY JURASSIC

EJA	**Aishihik suite:** white to beige hornblende-biotite granodiorite, monzogranite, quartz monzonite, and quartz monzodiorite; generally massive to weakly foliated, commonly alkali-feldspar porphyritic. Epidote is interpreted as magmatic (prominent) and secondary. Late-phase granitic pegmatite dikes are prominent.

UPPER TRIASSIC

uTS	**Semenof Formation:** andesite to dacite volcanic flows, tuff and volcaniclastic rocks; augite-phyric; locally well cleaved; may be equivalent to Povoas Formation.
uTPM	**Pyroxene Mountain suite:** dark green to black clinopyroxenite, hornblendite, hornblende pyroxenite, gabbro pegmatite; minor diorite and granodiorite; typically medium to coarse grained. Hornblendite is locally strongly foliated. Interpreted to be subvolcanic cumulate of the Semenof Formation.

STIKINIA/QUESNELIA

PERMIAN

Klondike assemblage

PKSC	**Sulphur Creek suite:** grey to pink alkali feldspar and quartz porphyritic monzogranite; moderately foliated to gneissic; porphyroclastic augen monzogranite; locally forms the protolith of the felsic Klondike Schist.
PK1	**Klondike Schist:** Undivided interlayed felsic and mafic metavolcanic rocks: a) beige to light green quartz and feldspar porphyritic felsic volcanic and volcaniclastic rocks; moderately to strongly foliated; phyllonite and phyllite derived from the felsic volcanic rocks; may contain highly strained Sulphur Creek suite (PKSC) monzogranite; b) light green mafic to intermediate chlorite schist and phyllonite derived from intermediate to mafic volcanic and volcaniclastic rocks; pyrite porphyroblasts are common.

LATE DEVONIAN - EARLY MISSISSIPPIAN

Simpson Range suite (MSR1, MSR2)

MSR1	Felsic to intermediate granitoid and orthogneiss: interlayered pink to grey hornblende-biotite or biotite granodiorite, monzogranite, quartz diorite and diorite; highly foliated to gneissic.
MSR2	Intermediate to mafic granitioid and orthogneiss: interlayered dark grey quartz diorite, diorite, gabbro and amphibolite; highly foliated to gneissic.

Metavolcanic and metasedimentary rocks

MF	**Finlayson assemblage:** amphibolite and garnet amphibolite; strongly foliated; locally deccusate textured; rare relict volcanic tectures; probably derived from mafic sills, dykes, flows and volcaniclastic rocks.
MSRS	**Stevenson Ridge schist:** black to grey carbonaceous quartzite, quartz-mica schist and rare black phyllite; strongly foliated and complexly folded.

LATE DEVONIAN AND OLDER

Snowcap assemblage (PDSA1, PDSA2)

PDSA1	Quartzite and schist: grey to white quartzite, micaceous quartzite and psammitic quartz-muscovite-biotite (± garnet ± aluminosilicates) schist; minor metaconglomerate.
PDSA2	Marble: light grey to white marble; interlayered with siliciclastic rocks; the extent of smaller marble bodies is slightly exaggerated. Difficult to differentiate from marble of unit MF.

YUKON TANANA TERRANE

PERMIAN AND OLDER

Pum	Undivided ultramafic rocks: harzburgite, dunite, orthopyroxenite, serpentinite, talc-tremolite schist and listwaenite; variably serpentinized, silicified or carbonatized; occur as 10 to 100 m wide tectonic slivers.

ULTRAMAFIC COMPLEXES

Contact (defined, approximate, inferred)
Dextral strike-slip fault (approximate, inferred)
Sinistral strike-slip fault (approximate, inferred)
Normal fault (approximate, inferred)
Thrust fault (approximate, inferred, identity questionable - location inferred)
Fault, offset uncertain (inferred)
Unconformity, ornament in younger unit (approximate)
Limit of mapping
Station
Boudin axis
Fold hinge, minor S-fold (generation: first, uncertain)
Fold hinge, minor U-fold (generation: second, third, uncertain)
Fold hinge, minor Z-fold (generation: second, uncertain)
Stretching/mineral lineation (generation: first, second, uncertain)
Fold axial plane (generation: second, third, uncertain)
Inclined bedding (top known, top unknown)
Overturned bedding (top known)
Cleavage
Dyke margin (inclined, vertical)
Fault plane (sense unknown)
Inclined volcanic flow layering (tops known, tops unknown)
Mylonitic foliation (generation: uncertain)
Gneissosity/schistosity (generation: first, second, third, uncertain)
Inclined igneous layering (tops known, tops unknown)
Joint
Shear zone (sense uknown)
Vein margin (inclined)
Mineral occurrence (Yukon MINFILE) 115K 087
New unpublished GSC U/Pb zircon age (Ma) 261

MINERAL OCCURRENCES				
NUMBER	NAME	TYPE	STATUS	COMMODITY
115I 027	Nix	Unknown	Showing	
115I 028	Minnesota	Au-Quartz Veins	Unknown	
115I 029	Delta	Porphyry Cu-Mo-Au	Drilled Prospect	Au, Ag
115I 030	Chat	Unknown	Unknown	
115I 031	Tad/Toro	Porphyry Cu-Mo-Au	Drilled Prospect	Au, Pb, Ag, Zn
115I 032	Phelps	Porphyry Cu-Mo-Au	Showing	Cu
115I 033	Terra	Unknown	Anomaly	
115I 034	Prospector Mountain	Polymetallic Veins Ag-Pb-Zn±Au	Drilled Prospect	Ag
115I 036	Starbird	Subvolcanic Cu-Au-Ag (As-Sb)	Showing	Cu
115I 037	Cash	Porphyry Cu-Mo-Au	Deposit	Cu, Mo
115I 076	Tuf	Porphyry Cu-Mo-Au	Showing	Cu
115I 081	Kerr	Porphyry Cu-Mo-Au	Drilled Prospect	Cu, Mo
115I 090	Sam	Unknown	Anomaly	
115I 099	Rand	Unknown	Unknown	
115I 100A	Pitts	Epithermal Au-Ag-Cu: High Sulphidation	Showing	Au
115I 100B	Pitts	Epithermal Au-Ag-Cu: High Sulphidation	Showing	Au
115I 101	Panther	Epithermal Au-Ag-Cu: High Sulphidation	Showing	Au
115I 102	Lumby	Porphyry Cu-Mo-Au	Anomaly	
115J 004	Somme	Porphyry Mo (Low F-Type)	Anomaly	
115J 005	Pride	Polymetallic Veins Ag-Pb-Zn±Au	Showing	
115J 006	Burl	Unknown	Unknown	
115J 007	Whyteex	Unknown	Unknown	
115J 008	Sonora Gulch	Plutonic Related Au	Drilled Prospect	Au, Pb, Ag
115J 009	Straw	Unknown	Anomaly	
115J 010	Yog	Unknown	Unknown	
115J 011	Guess	Plutonic Related Au	Anomaly	
115J 012	Oats	Unknown	Unknown	
115J 013	Selwyn	Unknown	Anomaly	
115J 014	Bekay	Unknown	Unknown	
115J 015	Crock	Porphyry Cu-Mo-Au	Anomaly	
115J 016	Battle	Unknown	Anomaly	
115J 017	Cockfield	Porphyry Cu-Mo-Au	Showing	Cu, Mo
115J 018	Sheridan	Unknown	Unknown	
115J 019	Colorado	Unknown	Unknown	
115J 020	Haxe	Polymetallic Veins Ag-Pb-Zn±Au	Anomaly	
115J 021	Vic	Unknown	Anomaly	
115J 022	Rude Creek	Polymetallic Veins Ag-Pb-Zn±Au	Showing	Au, Pb, Ag, Zn
115J 023	Nordex	Polymetallic Veins Ag-Pb-Zn±Au	Unknown	
115J 024	Toad	Unknown	Unknown	
115J 025	Peg	Porphyry Cu-Mo-Au	Anomaly	
115J 026	Sabina	Unknown	Anomaly	
115J 027A	Bomber	Polymetallic Veins Ag-Pb-Zn±Au	Past Producer	Pb, Ag, Zn
115J 027B	Bomber	Polymetallic Veins Ag-Pb-Zn±Au	Past Producer	Pb, Ag, Zn
115J 028	Casino	Porphyry Cu-Mo-Au	Deposit	Cu, Au, Mo
115J 029	Hole	Porphyry Cu-Mo-Au	Anomaly	Cu, Mo
115J 030	Bran	Unknown	Anomaly	
115J 031	Cleveland	Porphyry Cu-Mo-Au	Anomaly	Cu
115J 032	Ronge	Porphyry Cu-Mo-Au	Anomaly	
115J 033	Fiji	Unknown	Unknown	
115J 034	Gep	Porphyry Cu-Mo-Au	Anomaly	Cu
115J 035	Aztec	Porphyry Cu-Mo-Au	Anomaly	Cu
115J 036	Zappa	Porphyry Cu-Mo-Au	Drilled Prospect	Cu, Ag
115J 065	Tijana	Unknown	Unknown	
115J 066	Newmar	Unknown	Anomaly	
115J 067	Jippo	Unknown	Unknown	
115J 068	Acroll	Unknown	Unknown	
115J 069	Empire	Unknown	Unknown	
115J 070	Marquerite	Polymetallic Veins Ag-Pb-Zn±Au	Showing	
115J 071	Brewster	Plutonic Related Au	Anomaly	
115J 072	Scroggie	Porphyry Cu-Mo-Au	Showing	
115J 073	Baja	Unknown	Unknown	
115J 074	Mascot	Unknown	Unknown	
115J 088	Planet	Unknown	Unknown	
115J 089	Pattison	Porphyry Cu-Mo-Au	Drilled Prospect	Cu, Mo
115J 092	Hasl	Uranium	Anomaly	U
115J 093	Onasick	Uranium	Anomaly	
115J 097	Woe	Unknown	Unknown	
115J 098	Sizzler	Au-Quartz Veins	Showing	Au
115J 099	Idaho	Polymetallic Veins Ag-Pb-Zn±Au	Showing	Au, Ag
115J 101	Canadian Creek	Porphyry Cu-Mo-Au	Drilled Prospect	Cu
115J 103	Lost Issac	Unknown	Unknown	
115J 104	Gervan	Unknown	Unknown	
115J 106	Pyro	Unknown	Unknown	
115J 108A	Total	Unknown	Unknown	Au
115O 015	Agate	Au-Quartz Veins	Anomaly	
115O 075	Mariposa	Au-Quartz Veins	Anomaly	Au
115O 116	Pyroxene	Podiform Chromite	Anomaly	Au

Table 1. Yukon MINFILE 2010. Yukon MINFILE - A database of mineral occurrences. Yukon Geological Survey. http://www.geology.gov.yk.ca/databases_gis.html [accessed February 2013]

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GEOLOGY

STEVENSON RIDGE (NORTHEAST PART)

Yukon

1:100 000

2 0 2 4 6 8 km

Map projection Universal Transverse Mercator, zone 7. North American Datum 1983

Base map at the scale of 1:50 000 from Natural Resources Canada, with modifications. Elevations in feet above mean sea level

Mean magnetic declination 2013, 21°47'E, decreasing 23.0' annually. Readings vary from 21°31'E in the SW corner to 22°03'E in the NE corner of the map.

The Geological Survey of Canada welcomes corrections or additional information from users.

The data may include additional observations not portrayed on this map. *See* documentation accompanying the data.

This publication is available for free download through GEOSCAN (http://geoscan.ess.nrcan.gc.ca/).

Preliminary publications in this series have not been scientifically edited.

CANADIAN GEOSCIENCE MAP 116

GEOLOGY

STEVENSON RIDGE (NORTHEAST PART)

Yukon