



118C	118B	118A
PART OF 118	DAWSON	LARSEN CREEK
115N	115O	115P
THIS MAP	THIS MAP	MOUSTEN
115K	115J	115I
PART OF 115	STEVENSON RIDGE	GARBACKS

INTRODUCTION

New geochemical data from re-analysis of archived stream sediment samples have been assessed using weighted sums modeling and catchment basin analysis as described in the methodology report that accompanies this map (Mackie et al., 2015). Both commodity and pathfinder element abundances are evaluated to highlight areas that show geochemical responses consistent with a variety of base and precious-metal mineral deposit types. The results of modeling, completed using two approaches, are presented as a series of catchment maps and associated data files. This release is part of a regional assessment of stream sediment geochemistry that covers a large part of Yukon.

SAMPLING AND ANALYSIS PROGRAMS

Stream sediment and water samples from the Stewart River area (NTS 115O and part of 115N) were collected at a reconnaissance scale in 1986 as part of the Canada-Yukon Mineral Development Agreement (Friske et al., 2001). Field descriptions and initial geochemical data for 1392 sites were released in Geological Survey of Canada (GSC) Open File 1364 and Indian and Northern Affairs Canada, Exploration / Geological Services Division Open File 2001-13D. New geochemical data from the re-analysis of archive sample material were released in Yukon Geological Survey (YGS) Open File 2016-4 (Jackaman, 2016). The reader is referred to these reports for detailed descriptions of sampling techniques, analytical procedures, and quality control measures.

MINERAL OCCURRENCES

A variety of types of base and precious-metal mineralization have been identified in the Stewart River Area as listed in Table 1 (Yukon MINFILE, 2015). The most significant deposits are classed as orogenic Au (Golden Saddle deposit and O.V. prospect), polymetallic Ag-Pb-Zn (Connaught and Lerner deposits), intrusion-related Au (Moosehorn deposit and Flume prospect), quartz-vein hosted Au (Lone Star and Violet deposits, and Eureka prospect) and Cu-Zn-Pb volcanogenic massive sulphide (Toulary prospect). The Casino Cu-Mo-Au porphyry deposit and Coffee orogenic Au deposit occur in the adjacent map area to the south supporting the prospectivity of the region for these deposit types.

WEIGHTED SUMS MODELING

As described in the methodology report (Mackie et al., 2015), two approaches have been used to subdivide the influence of background lithological variation and secondary absorption on the composition of stream sediments. One use data levelled by the dominant geology mapped within each catchment, while the other uses residuals calculated from regression against selected principal components. Weighted sums models (WSM) have been generated using the processed data.

Table 1: List of Mineral Occurrences for NTS map sheet 115N and 115O (Yukon MINFILE, 2015)

Number	Name	Type	Status	Commodities
115N 019	115N 019	Unknown	Showing	Copper, Gold, Silver
115N 020	115N 020	Unknown	Showing	Copper, Gold, Silver
115N 021	115N 021	Unknown	Showing	Copper, Gold, Silver
115N 022	115N 022	Unknown	Showing	Copper, Gold, Silver
115N 023	115N 023	Unknown	Showing	Copper, Gold, Silver
115N 024	115N 024	Unknown	Showing	Copper, Gold, Silver
115N 025	115N 025	Unknown	Showing	Copper, Gold, Silver
115N 026	115N 026	Unknown	Showing	Copper, Gold, Silver
115N 027	115N 027	Unknown	Showing	Copper, Gold, Silver
115N 028	115N 028	Unknown	Showing	Copper, Gold, Silver
115N 029	115N 029	Unknown	Showing	Copper, Gold, Silver
115N 030	115N 030	Unknown	Showing	Copper, Gold, Silver
115N 031	115N 031	Unknown	Showing	Copper, Gold, Silver
115N 032	115N 032	Unknown	Showing	Copper, Gold, Silver
115N 033	115N 033	Unknown	Showing	Copper, Gold, Silver
115N 034	115N 034	Unknown	Showing	Copper, Gold, Silver
115N 035	115N 035	Unknown	Showing	Copper, Gold, Silver
115N 036	115N 036	Unknown	Showing	Copper, Gold, Silver
115N 037	115N 037	Unknown	Showing	Copper, Gold, Silver
115N 038	115N 038	Unknown	Showing	Copper, Gold, Silver
115N 039	115N 039	Unknown	Showing	Copper, Gold, Silver
115N 040	115N 040	Unknown	Showing	Copper, Gold, Silver
115N 041	115N 041	Unknown	Showing	Copper, Gold, Silver
115N 042	115N 042	Unknown	Showing	Copper, Gold, Silver
115N 043	115N 043	Unknown	Showing	Copper, Gold, Silver
115N 044	115N 044	Unknown	Showing	Copper, Gold, Silver
115N 045	115N 045	Unknown	Showing	Copper, Gold, Silver
115N 046	115N 046	Unknown	Showing	Copper, Gold, Silver
115N 047	115N 047	Unknown	Showing	Copper, Gold, Silver
115N 048	115N 048	Unknown	Showing	Copper, Gold, Silver
115N 049	115N 049	Unknown	Showing	Copper, Gold, Silver
115N 050	115N 050	Unknown	Showing	Copper, Gold, Silver
115N 051	115N 051	Unknown	Showing	Copper, Gold, Silver
115N 052	115N 052	Unknown	Showing	Copper, Gold, Silver
115N 053	115N 053	Unknown	Showing	Copper, Gold, Silver
115N 054	115N 054	Unknown	Showing	Copper, Gold, Silver
115N 055	115N 055	Unknown	Showing	Copper, Gold, Silver
115N 056	115N 056	Unknown	Showing	Copper, Gold, Silver
115N 057	115N 057	Unknown	Showing	Copper, Gold, Silver
115N 058	115N 058	Unknown	Showing	Copper, Gold, Silver
115N 059	115N 059	Unknown	Showing	Copper, Gold, Silver
115N 060	115N 060	Unknown	Showing	Copper, Gold, Silver
115N 061	115N 061	Unknown	Showing	Copper, Gold, Silver
115N 062	115N 062	Unknown	Showing	Copper, Gold, Silver
115N 063	115N 063	Unknown	Showing	Copper, Gold, Silver
115N 064	115N 064	Unknown	Showing	Copper, Gold, Silver
115N 065	115N 065	Unknown	Showing	Copper, Gold, Silver
115N 066	115N 066	Unknown	Showing	Copper, Gold, Silver
115N 067	115N 067	Unknown	Showing	Copper, Gold, Silver
115N 068	115N 068	Unknown	Showing	Copper, Gold, Silver
115N 069	115N 069	Unknown	Showing	Copper, Gold, Silver
115N 070	115N 070	Unknown	Showing	Copper, Gold, Silver
115N 071	115N 071	Unknown	Showing	Copper, Gold, Silver
115N 072	115N 072	Unknown	Showing	Copper, Gold, Silver
115N 073	115N 073	Unknown	Showing	Copper, Gold, Silver
115N 074	115N 074	Unknown	Showing	Copper, Gold, Silver
115N 075	115N 075	Unknown	Showing	Copper, Gold, Silver
115N 076	115N 076	Unknown	Showing	Copper, Gold, Silver
115N 077	115N 077	Unknown	Showing	Copper, Gold, Silver
115N 078	115N 078	Unknown	Showing	Copper, Gold, Silver
115N 079	115N 079	Unknown	Showing	Copper, Gold, Silver
115N 080	115N 080	Unknown	Showing	Copper, Gold, Silver
115N 081	115N 081	Unknown	Showing	Copper, Gold, Silver
115N 082	115N 082	Unknown	Showing	Copper, Gold, Silver
115N 083	115N 083	Unknown	Showing	Copper, Gold, Silver
115N 084	115N 084	Unknown	Showing	Copper, Gold, Silver
115N 085	115N 085	Unknown	Showing	Copper, Gold, Silver
115N 086	115N 086	Unknown	Showing	Copper, Gold, Silver
115N 087	115N 087	Unknown	Showing	Copper, Gold, Silver
115N 088	115N 088	Unknown	Showing	Copper, Gold, Silver
115N 089	115N 089	Unknown	Showing	Copper, Gold, Silver
115N 090	115N 090	Unknown	Showing	Copper, Gold, Silver
115N 091	115N 091	Unknown	Showing	Copper, Gold, Silver
115N 092	115N 092	Unknown	Showing	Copper, Gold, Silver
115N 093	115N 093	Unknown	Showing	Copper, Gold, Silver
115N 094	115N 094	Unknown	Showing	Copper, Gold, Silver
115N 095	115N 095	Unknown	Showing	Copper, Gold, Silver
115N 096	115N 096	Unknown	Showing	Copper, Gold, Silver
115N 097	115N 097	Unknown	Showing	Copper, Gold, Silver
115N 098	115N 098	Unknown	Showing	Copper, Gold, Silver
115N 099	115N 099	Unknown	Showing	Copper, Gold, Silver
115N 100	115N 100	Unknown	Showing	Copper, Gold, Silver

Table 2: List of Mineral Occurrences for NTS map sheet 115N and 115O (Yukon MINFILE, 2015)

Number	Name	Type	Status	Commodities
115N 042	115N 042	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 043	115N 043	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 044	115N 044	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 045	115N 045	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 046	115N 046	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 047	115N 047	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 048	115N 048	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 049	115N 049	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 050	115N 050	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 051	115N 051	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 052	115N 052	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 053	115N 053	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 054	115N 054	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 055	115N 055	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 056	115N 056	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 057	115N 057	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 058	115N 058	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 059	115N 059	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 060	115N 060	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 061	115N 061	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 062	115N 062	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 063	115N 063	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 064	115N 064	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 065	115N 065	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 066	115N 066	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 067	115N 067	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 068	115N 068	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 069	115N 069	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 070	115N 070	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 071	115N 071	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 072	115N 072	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 073	115N 073	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 074	115N 074	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 075	115N 075	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 076	115N 076	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 077	115N 077	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 078	115N 078	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 079	115N 079	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 080	115N 080	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 081	115N 081	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 082	115N 082	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 083	115N 083	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 084	115N 084	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 085	115N 085	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 086	115N 086	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 087	115N 087	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 088	115N 088	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 089	115N 089	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 090	115N 090	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 091	115N 091	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 092	115N 092	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 093	115N 093	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 094	115N 094	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 095	115N 095	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 096	115N 096	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 097	115N 097	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 098	115N 098	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 099	115N 099	Unknown	Showing	Copper, Gold, Silver, Molybdenum
115N 100	115N 100	Unknown	Showing	Copper, Gold, Silver, Molybdenum

Table 2: Importance rankings for weighted sums models using residuals on principal components.

Target Deposit Type	Other Deposit Type	Mn	Fe	Co	Ni	Cu	Mo	Zn	Pb	Ag	Au	As	Ba	Cd	Sr	Sb	Te	Hg	Tl	Bi	V	
Porphyry Cu-Mo	Cu skarn; Porphyry Mo; VMS (Cu-rich)					2	5	3		2	1											
Polymetallic Ag-Pb-Zn	VMS; SEDEX; Pb-Zn skarn					1	3	4	1	2	1											
Epithermal Au-Ag	Intrusion-related and orogenic Au; Polymetallic Ag-Pb-Zn					1				3	4	1					2	1	2			
Orogenic Au	Intrusion-related Au; Epithermal Au-Ag					1				3	4	2					2				1	
Intrusion-related Au	Orogenic Au; Epithermal Au-Ag					1				3	4	1					1				1	
W skarn	W porphyry; Intrusion-related Au					1				3	2						-2				1	4

*Polymetallic Ag-Pb-Zn type includes vein and matrix styles; SEDEX = sedimentary exhalative; VMS = volcanic-hosted/associated massive sulphide deposits
 †For heavily censored elements raw data are used following a log₁₀ transformation.

REFERENCES

Friske, P.W.B., Day, S.J.A. and McCurdy, M.W., 2001. Regional stream sediment and water geochemical reconnaissance data, western Yukon (NTS 115N and 115O). Geological Survey of Canada, Open File 1364 / Indian and Northern Affairs Canada, Exploration and Geological Services Division, Open File 2001-13(D).
 Jackaman, W., 2016. Regional Stream Sediment Geochemical Data, Stewart River area, Yukon (NTS 115N and 115O). Yukon Geological Survey, Open File 2016-4.
 Mackie, R., Arne, D. and Brown, O., 2015. Enhanced interpretation of regional stream sediment geochemistry from Yukon: catchment basin analysis and weighted sums modeling. Yukon Geological Survey, Open File Report 2015-10.