



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 1150 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 / Indian and Northern Affairs Canada, Exploration and 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 (Jackman, 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 subdue the influence of background lithological variation and secondary absorption on the composition of stream sediments. One uses 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 2: Importance rankings for weighted sums models using data levelled by mapped geology.

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

¹Polymetallic Ag-Pb-Zn type includes vein and mantle styles; SEDEX = sedimentary exhalative; VMS = volcanic-hosted/associated massive sulphide deposits
²For heavily censored elements, raw data are used following a log₁₀ transformation.

Table 1: List of Mineral Occurrences for NTS map sheet 115N and 1150 (Yukon MINFILE, 2015)

Number	Name	Type	Status	Commodities
115N 119	BLUET	Unknown	Showing	Copper, Gold
115N 120	BLUETOCK	Vein Au-Quartz	Showing	Copper, Gold, Silver
115N 152	BOXT MILE	Coal	Showing	Coal
115N 153	BOXT MILE	Coal	Showing	Coal
115O 014	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 015	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 016	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 017	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 018	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 019	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 020	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 021	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 022	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 023	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 024	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 025	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 026	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 027	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 028	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 029	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 030	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 031	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 032	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 033	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 034	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 035	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 036	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 037	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 038	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 039	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 040	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 041	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 042	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 043	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 044	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 045	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
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115O 047	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 048	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
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115O 050	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 051	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 052	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 053	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 054	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
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115O 062	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
115O 063	BLACK FOX	Vein Polymetallic Ag-Pb-Zn	Showing	Copper, Lead, Silver
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