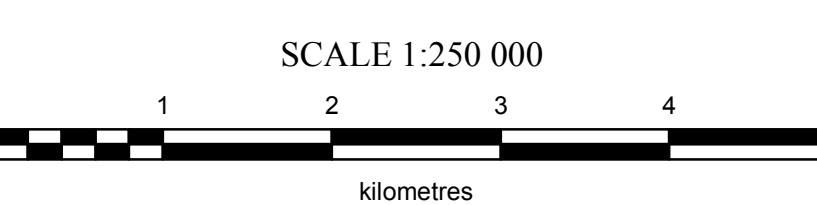


Au skarn Weighted sums model (Principal Component Residuals) Sheet 8 of 15



Use diagram only to obtain numerical values APPROXIMATE MEAN DECLINATION 2015 FOR CENTRE OF MAP

116F	116G	116H
PART OF 116G	OGLIVE RIVER	HART RIVER
116C	116B	116A
THIS MAP	THIS MAP	LARSEN CREEK
115N	115O	115P
PART OF 115O	STEWART RIVER	MCQUESTEN

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 Dawson area (NTS 116B and part of 116C) were collected as a reconnaissance scale in 1976 as part of the Federal Uranium Reconnaissance Program (Geological Survey of Canada, 1977). Field descriptions and initial geochemical data for 1129 sites were originally released in Geological Survey of Canada (GSC) Open File 520. Archived sample material was re-analyzed in two subsequent projects and the results were released in GSC Open File 2365 and Yukon Geological Survey Open File 2012-6 (Friske et al., 1991; Jackaman, 2012). The reader is referred to these reports for detailed descriptions of sampling techniques, analytical procedures and quality control measures.

MINERAL OCCURRENCES

Various types of base and precious-metal mineralization have been identified in the Dawson area as listed in Table 1 (Yukon MINFILE, 2015). The most significant deposits are classed as intrusion-related Au (Brewery Creek deposit), Au skarn (Marm deposit), Mississippi Valley-type Pb-Zn-Ag (Og and Tart prospects), iron oxide copper-gold (Lala and Wizard prospects) and polymetallic Ag-Pb-Zn-Cu (Spotted Fawn, Blackstone, Silvercity and Index prospects). Other deposit types within the area include sediment-hosted Ni-Zn-Mo (Graps and Talga prospects), Pb-Zn volcanogenic massive sulphide (Fresno and Top of the world prospects) and quartz-vein Au (Viggin and Ben Levy prospects). Numerous quartz-vein Au prospects occur in the adjacent NTS map area to the south, including the Lone Star deposit, supporting the prospectivity of the region for this type of deposit.

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 of 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)

RECOMMENDED CITATION

MACKIE, R., ARNE, D. AND PENNIMPEDE, C., 2016. Weighted sums model for Au skarn deposits using principal component residuals. In: Enhanced interpretation of stream sediment geochemical data for NTS map sheet 116B & 116C. Yukon Geological Survey, Open File 2016-32, scale 1:250 000, sheet 8 of 15.

Catchment basin polygons generated by the Yukon Geological Survey. (J. O. Bruce).

Any revisions or additional geological information known to the user would be welcomed by the Yukon Geological Survey.

Paper copies of this map and the accompanying report may be obtained from the Yukon Geological Survey, Energy, Mines and Resources, Government of Yukon, Room 102-300 Main St., Whitehorse, Yukon, Y1A 2B5. Ph. 867-667-3201, Email geology@gov.yk.ca.

A digital PDF (Portable Document File) file of this map may be downloaded free of charge from the Yukon Geological Survey website: <http://www.geology.gov.yk.ca>.

References: Friske, P.W.B., Hornbrook, E.H.W., Lynch, J.J., McCurdy, M.W., Gross, H., Galletta, A.C. and Durham, C.C., 1991. National Geochemical Reconnaissance Stream Sediment and Water Geochemical Data, West Central Yukon (NTS 116B; parts of 116C, 116F and 116G). Geological Survey of Canada, Open File 2365.

Geological Survey of Canada, 1977. Regional stream sediment and water geochemical reconnaissance data, Yukon Territory (NTS 116B, 116C, 116F and 116G). Geological Survey of Canada, Open File 520.

Jackaman, W., 2012. Regional Stream Sediment Geochemical Data, Dawson area, west central Yukon (NTS 116B and 116C). Yukon Geological Survey, Open File 2012-6.

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.

Yukon MINFILE, 2015. Yukon MINFILE – A database of mineral occurrences. Yukon Geological Survey, www.data.geology.gov.yk.ca, accessed May 2015.

Table 1: List of Mineral Occurrences for NTS map sheet 116B & 116C (Yukon MINFILE, 2015)

Number	Name	Type	Status	Commodities
116B 001	GERMINE	Porphyry Sn	Drilled Prospect	Copper
116B 002	COLLETT	Coal	Past Prospect	Mayhemium
116B 003	FRIGY	Vein Au-Quartz	Past Prospect	Copper, Silver, Mercury, Gold, Lead
116B 004	WILSON	Ultramafic-hosted asbestos	Drilled Prospect	Asbestos
116B 005	EPHE	Vein Au-Quartz	Prospect	Asbestos
116B 006	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 007	WILSON	Ultramafic-hosted asbestos	Drilled Prospect	Asbestos
116B 008	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 009	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 010	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 011	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 012	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 013	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 014	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 015	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 016	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 017	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 018	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 019	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 020	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
116B 021	WILSON	Ultramafic-hosted asbestos	Prospect	Asbestos
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