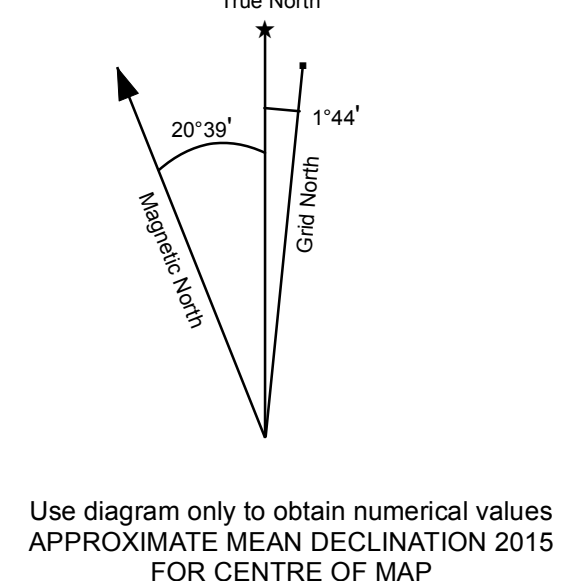
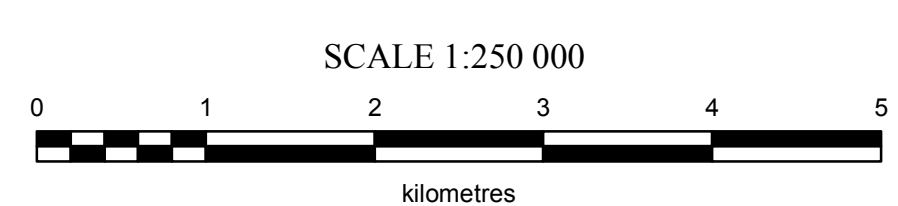


1:250 000-scale topographic base data produced by CENTRE FOR TOPOGRAPHIC INFORMATION, NATURAL RESOURCES CANADA. Copyright Her Majesty the Queen in Right of Canada. ONE THOUSAND METRE GRID Universal Transverse Mercator Projection North American Datum 1983 Zone 9. CONTOUR INTERVAL 100 FEET Elevations in metres above Mean Sea Level.

Intrusion-related Au Weighted sums model (Geology Levelled) Sheet 2 of 15



Grid reference table showing coordinates for map sheets 105F, 105G, 105H, 105C, 105B, 105A, 104N, 104O, 104P, 104M, 104D, 104E.

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 a 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 Wolf Lake area (NTS 105B) were collected at a reconnaissance scale in 1978 under the direction of the Geological Survey of Canada as part of the Federal Uranium Reconnaissance program (Geological Survey of Canada, 1986). The samples were analysed in several stages and the geochemical data were originally released in Geological Survey of Canada (GSC) Open File 563 and 1299 (Geological Survey of Canada, 1979 and 1986). A recent re-analysis program conducted by the Yukon Geological Survey (YGS) has generated new geochemical data from analysis of archived sample material as described in YGS Open File 2015-6 (Jackaman, 2015). The reader is referred to these reports for detailed descriptions of sampling techniques, analytical procedures, and quality control measures.

MINERAL OCCURRENCES

The most significant mineral occurrences discovered within the Wolf Lake area have been classed as polymetallic Ag-Pb-Zn vein (e.g., Dale, Logjam and Logan deposits), porphyry W (e.g., Logtung prospect and Cordilleran prospect), Pb-Zn skarn (e.g., Atom and Bar prospects), Sn skarn (e.g., Partridge prospect) or Sn vein and greisen (e.g., Cusp prospect). Other deposit types represented in the map area include epithermal Au-Ag (e.g., Shootamook prospect), volcanogenic massive sulphide (e.g., Convert Prospect), and porphyry Cu-Mo (e.g., McPres prospect). Polymetallic Ag-Pb-Zn vein and manto-type prospects trend into the map sheet area to the south (NTS 104O) within British Columbia supporting the prospectivity of the region for this class of mineralization.

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 principal components. Weighted sums models (WSM) have been generated using the processed data. The importance rankings used in WSMs are summarized in Table 2 for a variety of deposit types. Each model is optimized for a target deposit type however

Table 2: Importance rankings for weighted sums models using data levelled by dominant mapped geology. The table lists Target Deposit Type, Other Deposit Types, and various elements (Mn, Fe, Co, Ni, Cu, Mo, Zn, Pb, Ag, Au, As, Ba, Cd, Sn, Sb, Te, Hg, Tl, Bi, W) with their respective importance rankings.

¹ Au data are not levelled by dominant geology, instead log_e transformed raw data are used. ² Hg residual from regression analysis against Loss-on-ignition (LOI)

LEGEND

Legend details including symbols for Town, Mineral Occurrence, Road, Contour, River, Water Body, Wetland, Sample Location, Catchment, and Catchments >10 km². It also includes the Weighted sums model (Geology Levelled) color scale from 0-50th percentile to 95-100th percentile.

REFERENCES

Geological Survey of Canada, 1979. Regional stream sediment and water geochemical reconnaissance data, Yukon Territory (105B). Geological Survey of Canada Open File 563, revised 1980. Geological Survey of Canada, 1986. Regional stream sediment and water geochemical reconnaissance data, southern Yukon, NTS 105B. Geological Survey of Canada, Open File 1289. Jackaman, W., 2015. Regional stream sediment geochemical data, Wolf Lake area, southern Yukon (NTS 105B). Yukon Geological Survey, Open File 2015-6. Mackie, R., Arne, D. and Brown, O., 2015. Enhanced interpretation of regional stream sediment (RGS) geochemical data 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 105B (Yukon MINFILE, 2015). The table lists Number, Name, Type, Status, and Commodities for various mineral occurrences.

RECOMMENDED CITATION

MACKIE, R., ARNE, D. AND PENNIMPEDE, C., 2016. Weighted sums model for intrusion-related Au deposits levelled by geology. In: Enhanced interpretation of stream sediment geochemical data for NTS 105B. Yukon Geological Survey, Open File 2015-8, scale 1:250 000, sheet 2 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.

Yukon Geological Survey Energy, Mines and Resources Government of Yukon

Open File 2016-8

Weighted sums model for intrusion-related Au deposits levelled by mapped geology (NTS 105B) Sheet 2 of 15

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