

INTRODUCTION

New geochemical data from re-analysis of archived stream sediment samples have been assessed using weighted sums modeling (WSM) and catchment basin analysis as described in the methodology report that accompanies this map (Mackie et al., 2015). In addition to a series of maps displaying WSM results, a catchment map of stream water pH has also been constructed.

SAMPLING AND ANALYSIS PROGRAMS

Stream sediment and water samples from the Frances Lake map area (105H) were collected at a reconnaissance scale in 1987 as part of the Canada-Yukon Mineral Development Agreement (Hornbrook & Friske, 1988). Field descriptions and initial geochemical data for 917 sites were released in Geological Survey of Canada ("GSC") Open File 1649. New geochemical data from the re-analysis of archived sample material were released in GSC Open File 6043 and Yukon Geological Survey ("YGS") Open File 2009-1. The reader is referred to these open files for detailed descriptions of sampling techniques, analytical procedures and quality control measures.

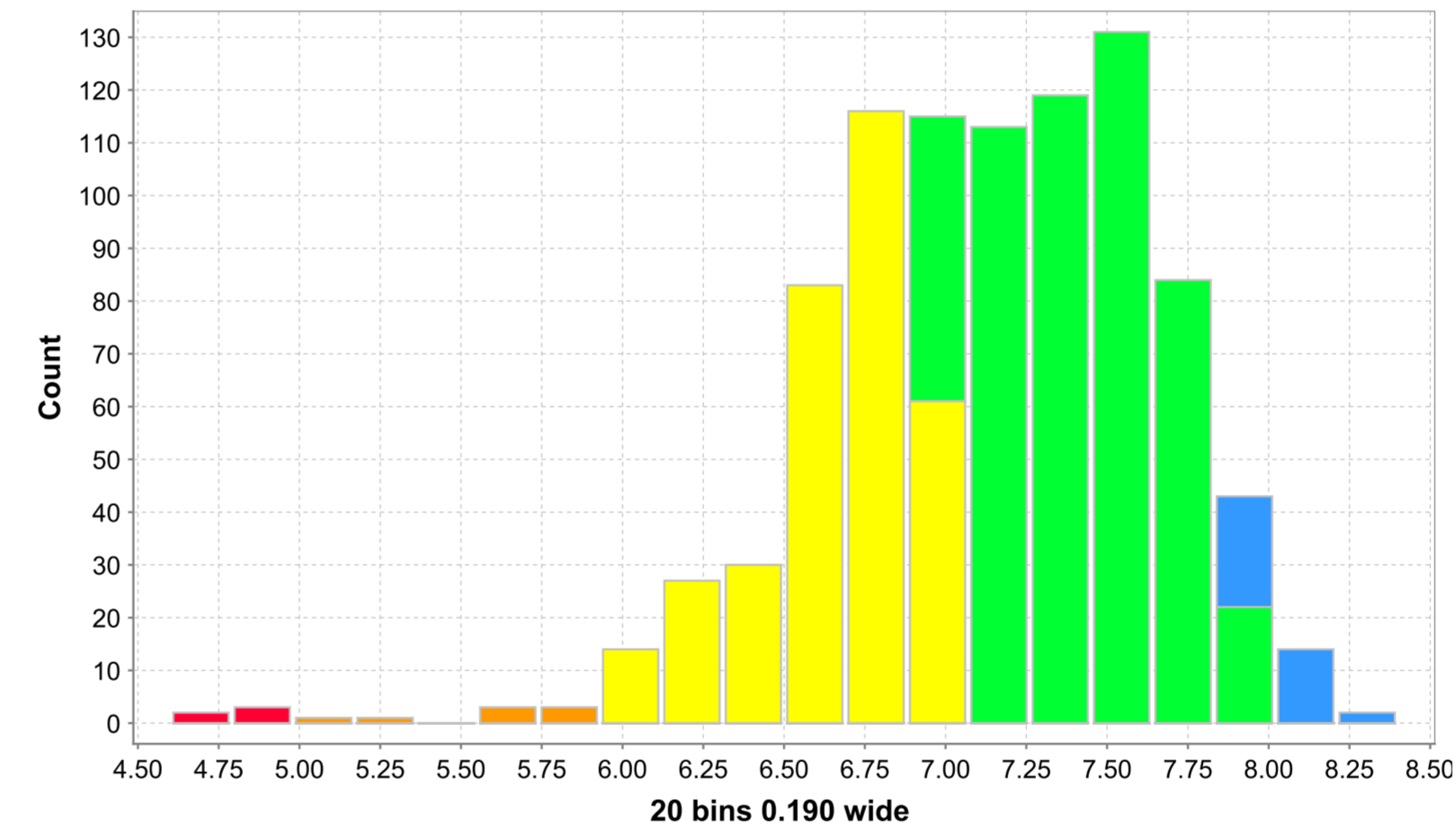
MINERAL OCCURRENCES

A variety of types of base and precious-metal mineralization are known to occur in the Frances Lake map sheet as shown in Table 1 (Yukon MINFILE, 2015). Skarn is dominant style of mineralization documented in the area and includes W (Tai, Woah and Susan deposits), Pb-Zn (Max, Miko, Fir Tree and Lee deposits) and Cu (Jan Prospect) types. The producing Cantung W-skarn mine, currently operated by North American Tungsten Corporation, occurs in the north-eastern corner of the map area within Northwest Territories. In addition to skarn mineralization, intrusion-related gold mineralization has also been documented within the map area (Justin Deposit). The Finlayson Lake Zn-Pb-Cu-Ag VMS district and the Tintina polymetallic Ag-Pb-Zn deposit occur in the adjacent map area towards the west (105G).

STREAM WATER pH

As shown in Figure 1 the vast majority of the streams samples have water with near-neutral pH (median = 7.2). Comparison of the location of known occurrences and stream water pH shows no obvious relationship suggesting that any response related to the oxidation of near-surface sulphide mineralization has been diluted or neutralized. Regional trends of slightly acidic (pH ~6.5) stream water appear to be related to areas mapped as felsic and intermediate intrusions. Several streams have mildly acidic water (pH <5.5) which could be related to sulphide mineralization.

Figure 1: Histogram of stream water pH



LEGEND

- Town
- Mineral Occurrence
- Road
- Contour
- River
- Water Body
- Wetland
- Sample Location
- Catchment
- No pH data
- 0.01 - 5.00
- 5.01 - 6.00
- 6.01 - 7.00
- 7.01 - 8.00
- 8.01 - 9.00
- 9.01 - 10.00

RECOMMENDED CITATION

MACKIE, R., ARNE, D. AND PENNIMPEDE, C., 2015. Stream water pH. In: Enhanced interpretation of stream sediment geochemical data for NTS 105H. Yukon Geological Survey, Open File 2015-27, sheet 1:250 000, sheet 15 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 purchased 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

Hornbrook, E.H.W. and Friske, P.W.B., 1988. Regional stream sediment and water geochemical data, southeastern Yukon (NTS 105H). Geological Survey of Canada, Open File 1649.

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 2015-10.

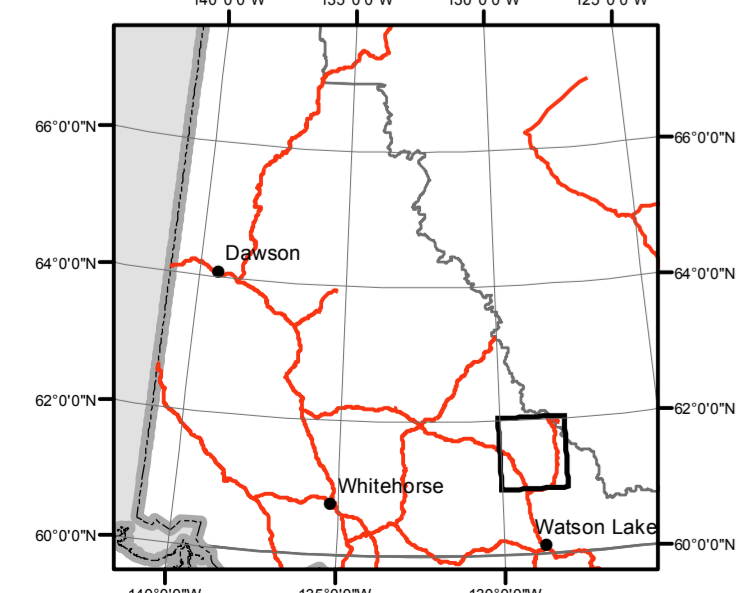
McCurdy, M.W., Day, S.J.A., Friske, P.W.B., McNeil, R.J. and Hornbrook, E.H.W., 2009. Regional Stream Sediment and Water Geochemical Data, Frances Lake area, southeastern Yukon (NTS 105H) Geological Survey of Canada, Open File 6043, Yukon Geological Survey Open File 2009-1.

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

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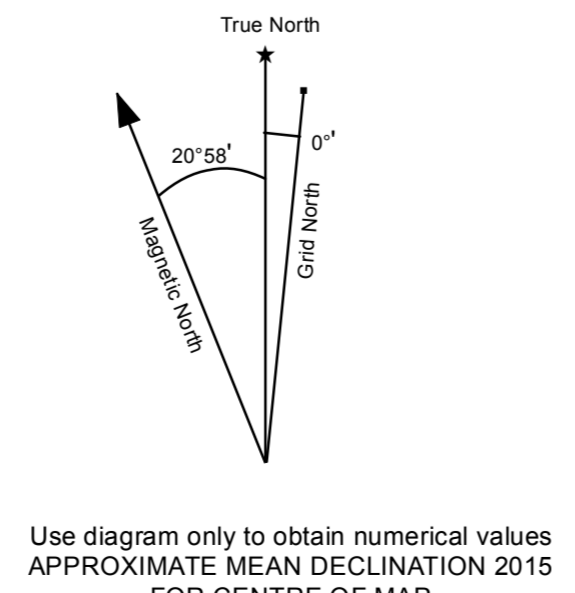
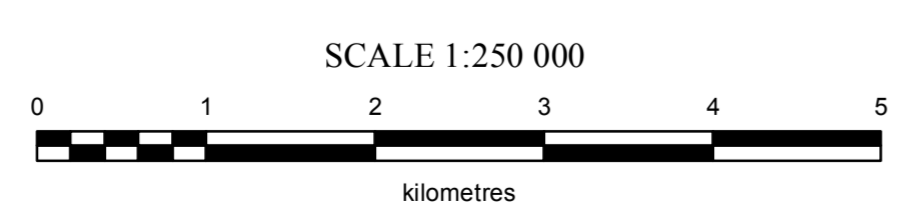
Open File 2015-27
Stream Water pH (NTS 105H)
Sheet 15 of 15

by
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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

Stream Water pH Sheet 15 of 15



105J SHELDON LAKE	105I LITTLE MAHANNI RIVER	095L GLACIER LAKE
105G FINLAYSON LAKE	THIS MAP 105H	095E FLAT RIVER
105B WOLF LAKE	105A WATSON LAKE	095D COAL RIVER