

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 Dezaeash Range Area (NTS 115A) were collected at a reconnaissance scale in 1992 as part of the Canada-Yukon Mineral Development Agreement (Friske *et al.*, 2001). Field descriptions and initial geochemical data for 587 sites were released in Geological Survey of Canada (GSC) Open File 2859 (Friske *et al.*, 2001). New geochemical data from the re-analysis of archive sample material were released in Yukon Geological Survey (YGS) Open File 2016-05 (Jackaman, 2016). Samples from sites located within currently protected areas were excluded from re-analysis. The current assessment examines only data for the 397 sites that are located outside of these protected areas. The reader is referred to these reports for detailed descriptions of sampling techniques, analytical procedures, and quality control measures. It is important to note that many of the sample sites are located in topographically subdued and low-lying areas which are not ideal stream sediment or water sample locations given potential influence from Quaternary alluvial and glacial lacustrine sediments.

MINERAL OCCURRENCES

The Dezaeash Range Area contains relatively few mineral occurrences compared to other regions of Yukon. Most of the occurrences are located within lands that are now protected (Kluane National Park and Kusawa Natural Environment Park). As listed in Table 1 (Yukon MINFILE, 2015) the most developed occurrences are classed as polymetallic Ag-Pb-Zn (Kane deposit), Cu±Ag quartz vein (Johob deposit; and Mush and Jackpot prospects), Zn-Pb±Ag volcanogenic massive sulphide (Kloo, Elgin and Wren prospects) and Au quartz vein (Archibald showing). The Whitehorse Copper (Cu skarn) and Mount Skukum epithermal Au-Ag deposit occur in the adjacent NTS map area to the east supporting the prospectivity of the region for these deposit types. Although the Wrangellia terrane, which hosts the Wellgreen Ni-Cu-PGE deposit, transects the Dezaeash Range area it is within the Kluane National Park.

STREAM WATER pH

As shown in Figure 1, the vast majority of streams are near-neutral to slightly alkaline (median pH = 7.5). Regional trends in pH are evident however they do not consistently correspond to specific mapped lithologies. Generally, areas mapped as felsic intrusive have relatively low pH values compared to those mapped as sedimentary or mafic volcanic rocks, or quaternary cover. None of the sampled streams have pH < 6. This apparent lack of acidic streams may be a consequence of a number of factors including: absence of near-surface sulphide, neutralization of any acidic waters generated from oxidation of sulphide, and/or non-ideal sample sites.

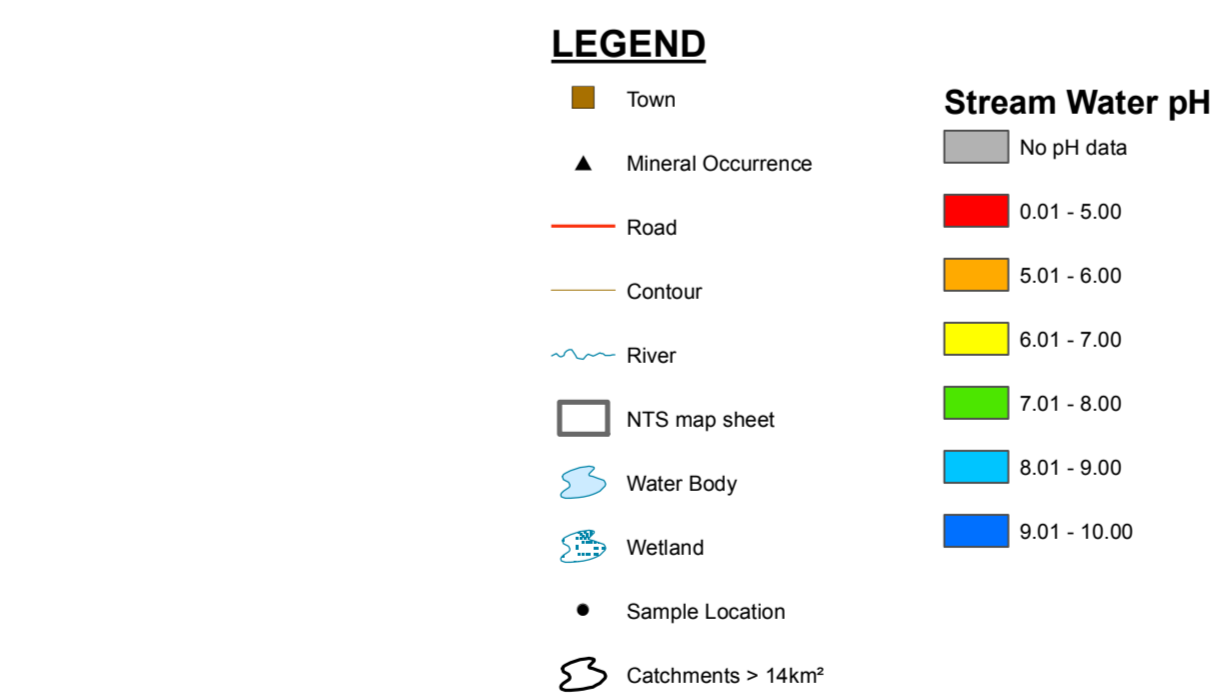
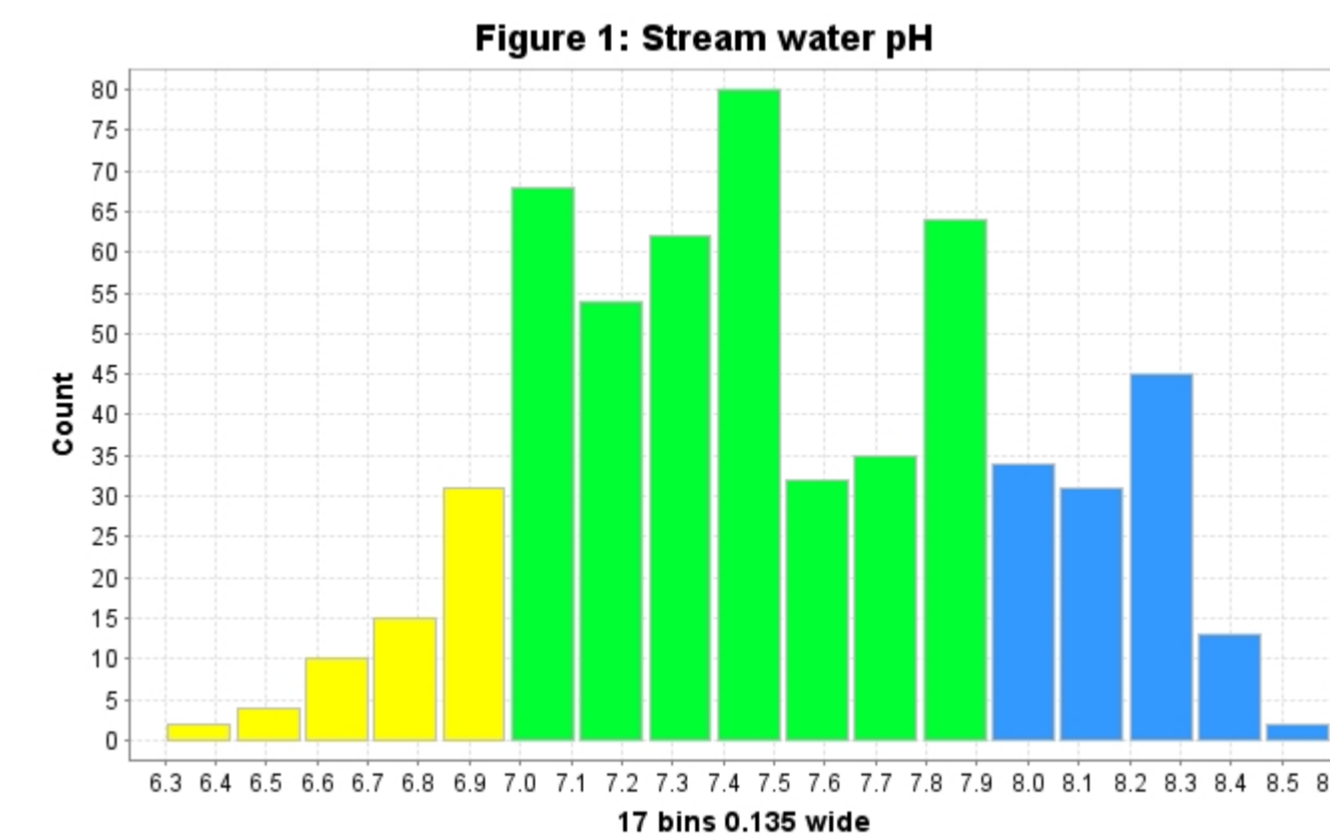


Table 1: List of Mineral Occurrences for NTS map sheet 115A (Yukon MINFILE, 2015)

Number	Name	Type	Status	Commodities
115A 001	JACKPOT	Vein Cu±Ag Quartz	Drilled Prospect	Copper, Silver
115A 003	KANE	Vein Polymetallic Ag-Pb-Zn±Au	Past Producer	Lead, Zinc, Silver
115A 005	PHOTO	Vein Cu±Ag Quartz	Showing	Antimony, Cobalt, Copper, Gold
115A 006	MUSH	Vein Cu±Ag Quartz	Prospect	Copper, Gold
115A 007	BATES	Vein Polymetallic Ag-Pb-Zn±Au	Prospect	Gold, Lead, Silver
115A 012	CAVE	Porphyry Cu-Mo-Au	Prospect	Copper, Silver
115A 013	SHAFT	Volcanogenic Sulphide - type not determined	Showing	Copper
115A 015	RELOID	Vein Au-Quartz	Showing	Copper
115A 016	HUSKY	Volcanogenic Sulphide - type not determined	Showing	Copper
115A 018	KEL	Volcanogenic Sulphide - type not determined	Prospect	Copper
115A 024	DEVILHOLE	Porphyry Cu-Mo-Au	Showing	Copper, Lead, Molybdenum
115A 025	KUSAWA	Skarn Cu	Showing	Copper
115A 031	JOHOB	Vein Cu±Ag Quartz	Past Producer	Copper, Silver
115A 032	REX	Ultramafic-hosted asbestos	Deposit	Asbestos
115A 035	ELGIN	Volcanogenic Sulphide - type not determined	Drilled Prospect	Copper
115A 036	ARCHIBALD	Vein Au-Quartz	Showing	Gold, Lead, Silver
115A 037	STRIDE	Ultramafic Mafic Podiform Chromite	Showing	Chromium, Iron
115A 039	FERGUSON	Unknown	Unknown	Gold
115A 041	KLOO	Volcanogenic Sulphide - type not determined	Drilled Prospect	Copper, Molybdenum, Nickel, Silver, Gold, Mercury
115A 043	SOUTHER	Porphyry Cu-Mo-Au	Showing	Copper, Molybdenum, Zinc, Silver, Lead
115A 044	ISLAND	Ultramafic-hosted asbestos	Showing	Asbestos
115A 045	TATSHENSHI	Porphyry Cu-Mo-Au	Showing	Copper, Molybdenum
115A 049	DOLLIS	Vein Au-Quartz	Prospect	Gold
115A 040	DECOELI	Ultramafic Mafic Gabbroid Cu-Ni-PGE	Showing	
115A 021	BOLINTY	Unknown	Anomaly	
115A 017	WREN	Volcanogenic Sulphide - type not determined	Showing	
115A 030	SHORTY	Porphyry Cu-Mo-Au	Anomaly	
115A 014	ROBIN	Unknown	Showing	
115A 038	SUGDEN	Coal	Showing	
115A 027	CHAMPAGNE	Unknown	Anomaly	
115A 033	DEZ	Unknown	Anomaly	
115A 051	BEATON	Unknown	Unknown	
115A 030	MILLHOUSE	Volcanogenic Sulphide - type not determined	Unknown	
115A 008	FENTON	Vein Cu±Ag Quartz	Showing	
115A 022	KLUKSHU	Volcanogenic Sulphide - type not determined	Anomaly	
115A 034	MAWL	Unknown	Unknown	
115A 019	SKIKLE	Unknown	Anomaly	
115A 029	MENDENHALL	Unknown	Anomaly	
115A 050	CASHN	Vein Au-Quartz	Unknown	
115A 002	DALTON	Porphyry Cu-Mo-Au	Drilled Prospect	

RECOMMENDED CITATION

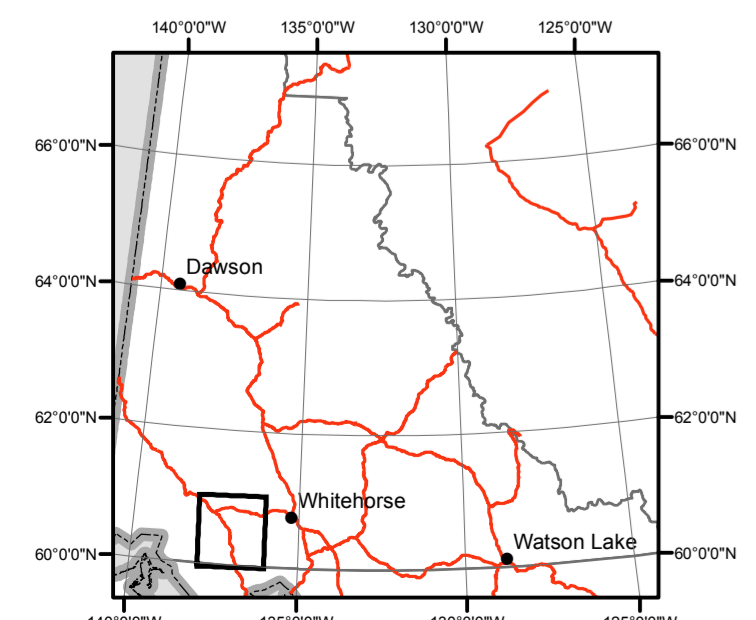
MACKIE, R., ARNE, D. AND PENNIMPEDE, C., 2016. Stream water pH. In: Enhanced interpretation of stream sediment geochemical data for NTS map sheet 115A. Yukon Geological Survey, Open File 2016-29, scale 1:250 000, sheet 13 of 13.

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

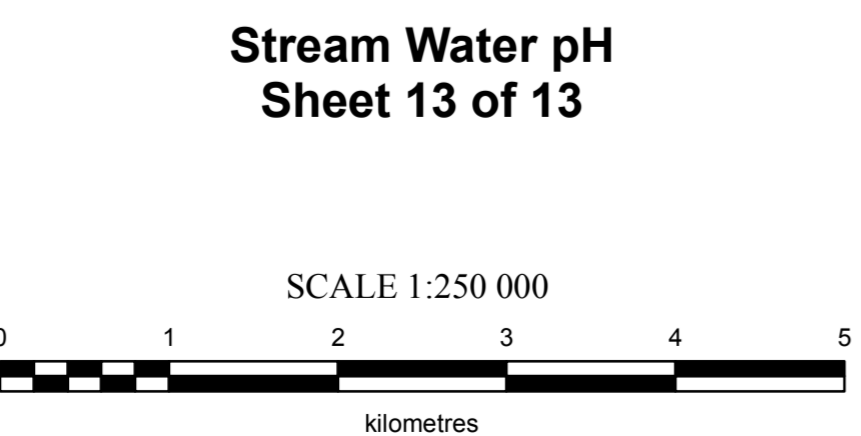
Any revisions or additional geological information known to the user would be welcomed by the Yukon Geological Survey.

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>.



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 8. CONTOUR INTERVAL 100 FEET Elevations in metres above Mean Sea Level.



Use diagram only to obtain numerical values APPROXIMATE MEAN DECLINATION 2016 FOR CENTRE OF MAP

115G KLUANE LAKE	115H AISHIK LAKE	105E LAKE LABERGE
115B MOUNT ST ELIAS	THIS MAP 115A	105D WHITEHORSE
114C YAKUTAT	114P TATSHENSHI RIVER	104M SKAGWAY

REFERENCES

Friske, P.W.B., Day, S.J.A. and McCurdy, M.W., 2001. Regional Stream Sediment and Water Geochemical Data, southwestern Yukon (parts of NTS 115A and B). Geological Survey of Canada, Open File 2859.
 Jackaman, W., 2016. Regional Stream Sediment Geochemical Data, Dezaeash Range area, southern Yukon (NTS 115A). Yukon Geological Survey, Open File 2016-05.
 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.

Yukon Geological Survey
Energy, Mines and Resources
Government of Yukon

Open File 2016-29

**Stream Water pH (NTS 115A)
Sheet 13 of 13**

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