

INTRODUCTION

New geochemical data from re-analysis of archived stream sediment samples have been assessed using weighted sums modelling (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

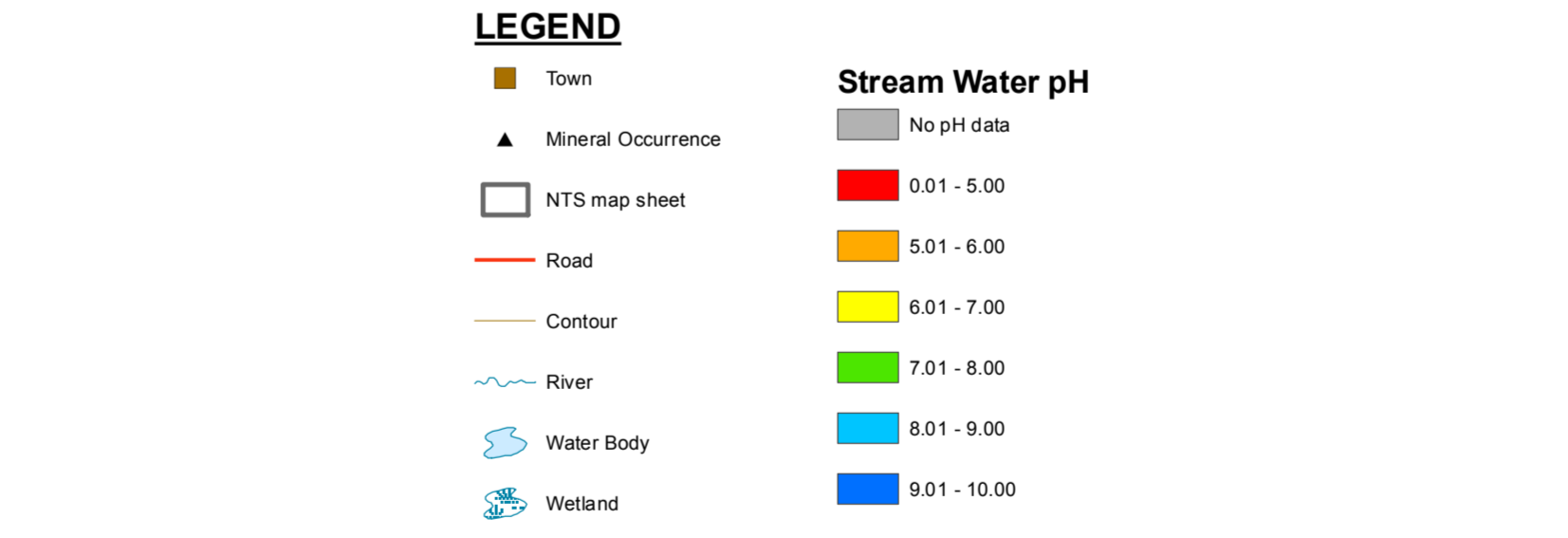
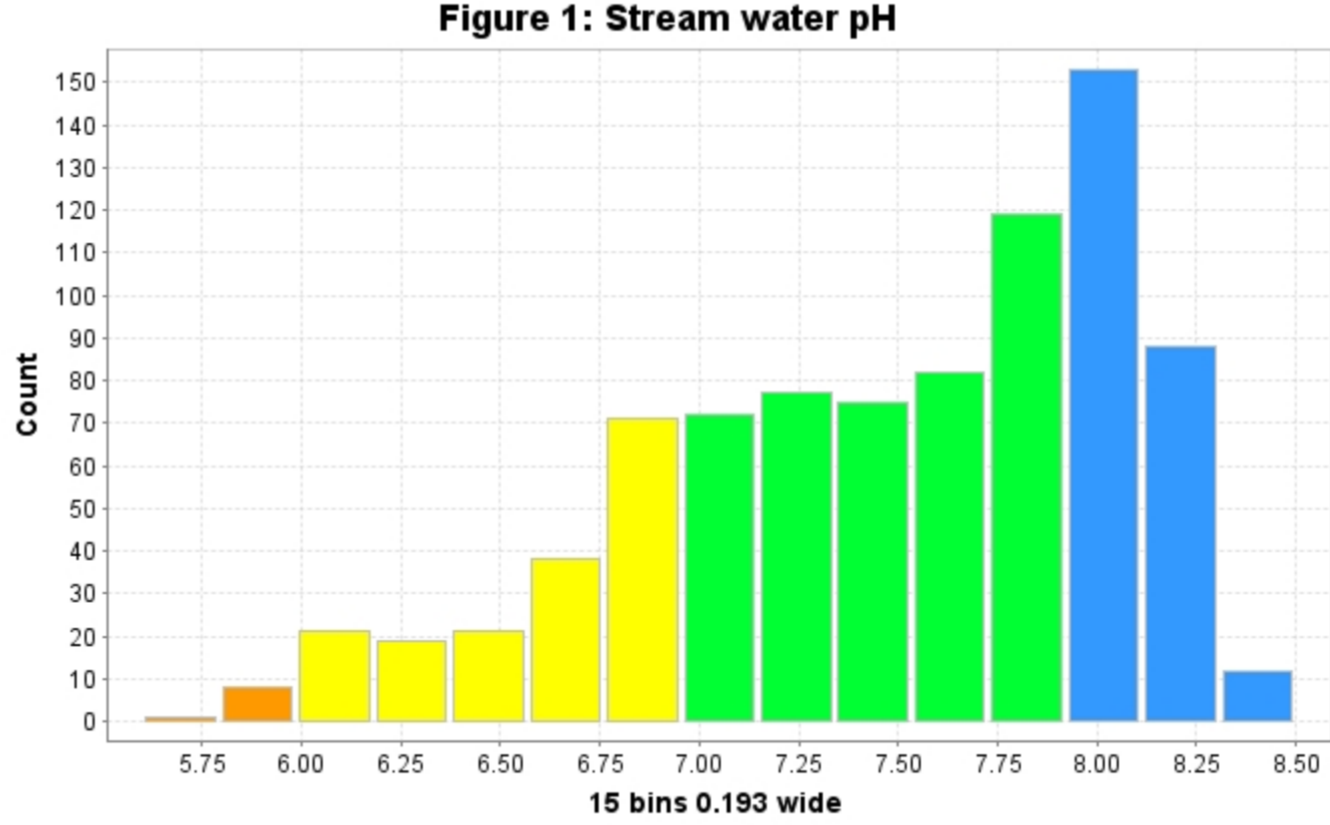
Stream sediment and water samples from the Quiet Lake area (NTS 105F) were collected at a reconnaissance scale in 1978 as part of the Federal Uranium Reconnaissance program. The sediment samples were analyzed in several stages and the geochemical data were released in Geological Survey of Canada (GSC) Open Files 564, 732, and 1290 (Goodfellow & Lynch, 1978; Coker et al., 1981; Hornbrook et al., 1985). 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 2015-8 (Jackaman, 2015). The reader is referred to these reports for detailed descriptions of sampling techniques, analytical procedures and quality control measures.

MINERAL OCCURRENCES

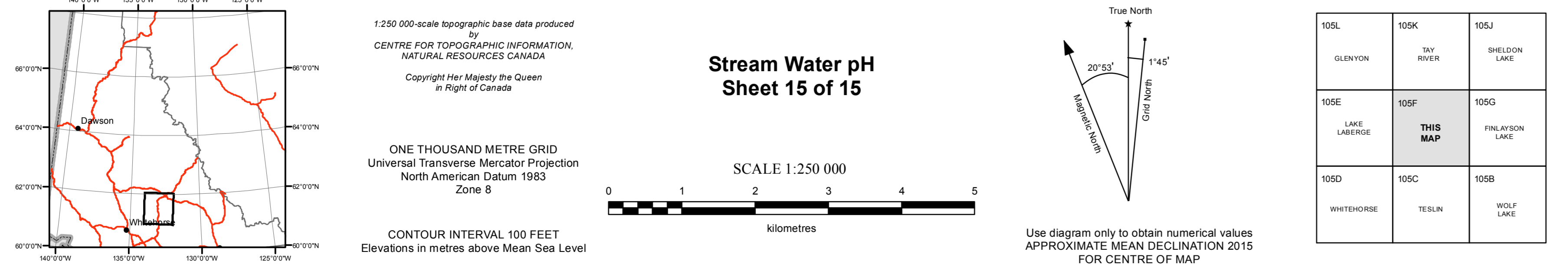
The main mineral occurrences within the Quiet Lake area are classed as polymetallic Ag-Pb-Zn (Au) veins (Groundhog and Ketzakey deposits), replacement/manto-style Au (Ketzza River Deposit) and W skarn (Stormy and Risby deposits). Other deposit types represented in the map area include Cu-Pb-Zn volcanogenic massive sulphide (MM and Tub prospects), Mo skarn (Molly prospect), quartz-vein Au (Seagull Creek prospect), high sulphidation Au-Ag-Cu (Beautiful prospect) and sedimentary exhalative Zn-Pb-Ag ("High-grade" and Angie prospects). The Anvil SEDEX and Finlayson Lake VMS districts are located in the adjacent NTS map sheets to the north and east, respectively. Notably, the Red Mountain porphyry Mo deposit is located less than 2 km from the southern boundary of the map area.

STREAM WATER pH

As shown in Figure 1 the vast majority of the streams sampled have water with near-neutral to slightly alkaline pH (median = 7.6). Regional trends of slightly-acidic pH (i.e., ~6.5) generally match the distribution of felsic intrusive rocks consistent with the acidification of ground water by hydrolysis of silicate minerals (e.g., feldspar) during weathering. Comparison of the location of known occurrences and stream water pH shows no obvious relationship suggesting any response from oxidation of near-surface sulphide mineralization is not distinguishable from these regional trends, or has been diluted or neutralized. In the northern part of the map area a several streams are mildly acidic pH (~6). Given that this region is dominantly underlain by carbonate sedimentary rocks which would likely have buffered the water to alkaline compositions and no occurrences have been documented, the pH measurements of these streams are suspect.



Number	Name	Type	Status	Commodities
105F 001	GRAVING	Vein Polymetallic Ag-Pb-Zn+Au	Drifted Prospect	Gold, Lead, Silver, Zinc
105F 002	COXALL	Manto Polymetallic Ag-Pb-Zn	Drifted Prospect	Bismuth, Gold, Lead, Silver
105F 005	MAM	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Showing	Lead, Zinc
105F 009	GROUNDHOG	Vein Polymetallic Ag-Pb-Zn+Au	Drifted Prospect	Lead, Silver, Gold, Zinc, Copper
105F 010	FRONZ	Vein Au-Quartz	Showing	Antimony, Gold, Lead, Silver
105F 033	HAM	Skarn W	Prospect	Tungsten
105F 034	WHEAT	Skarn W	Prospect	Tungsten
105F 035	AMBRIDGE	Vein Polymetallic Ag-Pb-Zn+Au	Prospect	Copper, Lead, Silver, Zinc, Gold
105F 036	TUB	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Drifted Prospect	Copper, Lead, Tungsten, Zinc, Silver, Gold
105F 037	IVA	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Drifted Prospect	Gold, Lead, Tungsten, Gold
105F 038	BARTE MOUNTAIN	Vein Barite-Fluorite	Drifted Prospect	Barite, Zinc, Copper, Silver
105F 040	CANADA	Vein Polymetallic Ag-Pb-Zn+Au	Drifted Prospect	Gold, Lead, Silver, Zinc
105F 042	MT. COOK	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Showing	Lead, Molybdenum, Silver, Zinc
105F 044	WATERFALL	Vein Au-Quartz	Showing	Gold
105F 045	HANDE	Vein Au-Quartz	Showing	Copper, Gold, Silver
105F 047	TRENCH	Coal	Prospect	Copper, Gold, Silver
105F 048	WHISKEY LAKE	Coal	Prospect	Coal
105F 050	BROCK LAKE	Ultramafic Mafic Flood basalt-associated Ni-Cu	Drifted Prospect	Copper, Lead, Nickel, Silver, Gold
105F 052	MT. MISERY	Vein Polymetallic Ag-Pb-Zn+Au	Prospect	Gold, Silver, Lead
105F 053	KLEY	Vein Polymetallic Ag-Pb-Zn+Au	Past Producer	Copper, Lead, Silver
105F 054	LAPRAIRE	Vein Polymetallic Ag-Pb-Zn+Au	Drifted Prospect	Gold, Silver, Lead
105F 055	HOLEY	Vein Polymetallic Ag-Pb-Zn+Au	Drifted Prospect	Gold, Lead, Zinc, Thallium, Silver
105F 058	MAGLINDY	Vein Polymetallic Ag-Pb-Zn+Au	Showing	Lead, Silver
105F 059	HODG	Vein Cu+Ag-Quartz	Showing	Copper
105F 060	RYCHORUK	Ultramafic-hosted asbestos	Showing	Asbestos
105F 066	CONNELL	Vein Polymetallic Ag-Pb-Zn+Au	Showing	Copper, Silver
105F 068	REGEHR	Manto Polymetallic Ag-Pb-Zn	Prospect	Copper, Zinc, Silver, Gold, Lead
105F 069	KIRWAN	Vein Polymetallic Ag-Pb-Zn+Au	Showing	Lead, Silver
105F 070	DROCK	Vein Polymetallic Ag-Pb-Zn+Au	Showing	Lead, Zinc, Copper
105F 072	YOUNG	Skarn Cu	Showing	Copper
105F 073	BRADB	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Drifted Prospect	Barite, Lead, Zinc, Silver, Copper
105F 075	BEAUTIFUL	Epithermal Au-Ag-Cu, High Sulphidation	Drifted Prospect	Barite
105F 078	PAUPLE	Skarn W	Showing	Copper, Tungsten, Molybdenum
105F 079	MARSHY	Porphyry Cu-Mo-Au	Showing	Copper, Uranium, Tungsten
105F 080	NOKLIT	Carbonatite	Prospect	Barite, Cerium, Fluorite, Gold, Lead, Niobium, Silver, Uranium, Zinc, Yttrium, Thorium, Rare Earths, Neodymium, Lanthanum, Copper
105F 081	GUANO	Carbonatite	Prospect	Fluorite, Rare Earths, Uranium, Thorium, Niobium
105F 083	FOX	Vein Polymetallic Ag-Pb-Zn+Au	Showing	Lead, Silver, Zinc
105F 084	LAP	Skarn W	Showing	Tungsten
105F 085	SENTRY	Sediment hosted Mississippi Valley Type Pb-Zn (MVT)	Showing	Lead, Zinc
105F 086	KELLY	Volcanogenic Sulphide - type not determined	Showing	Lead, Zinc
105F 087	RAMPANT	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Showing	Copper
105F 088	MOBIS	Skarn Mo	Drifted Prospect	Molybdenum, Uranium
105F 090	WOPUS	Vein Polymetallic Ag-Pb-Zn+Au	Showing	Lead, Molybdenum, Silver
105F 091	COPNER	Vein Polymetallic Ag-Pb-Zn+Au	Prospect	Lead, Silver
105F 095	DUNITE MOUNTAIN	Ultramafic-hosted asbestos	Showing	Gold, Molybdenum, Zinc, Silver, Lead
105F 098	TOWER PEAK	Vein Polymetallic Ag-Pb-Zn+Au	Showing	Asbestos
105F 099	DODDY	Ultramafic-hosted asbestos	Showing	Asbestos
105F 101	STORMY	Skarn W	Showing	Molybdenum, Tungsten
105F 102	AM	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Drifted Prospect	Barite, Copper, Zinc, Silver, Lead, Gold
105F 103	CPA	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Showing	Copper, Zinc, Lead
105F 104	SUNNY	Vein Polymetallic Ag-Pb-Zn+Au	Showing	Arsenic, Copper, Silver, Lead, Gold
105F 105	BOY	Sediment hosted Mississippi Valley Type Pb-Zn (MVT)	Showing	Antimony, Silver, Zinc, Lead, Barite, Copper, Fluorite
105F 106	SHARON	Vein Polymetallic Ag-Pb-Zn+Au	Prospect	Copper, Lead, Silver, Zinc
105F 107	LOD	Vein Cu+Ag-Quartz	Prospect	Copper, Zinc, Silver, Lead, Gold
105F 108	KE TZA	Manto Au	Prospect	Copper
105F 110	KELLY	Manto Au	Past Producer	Gold, Silver, Arsenic
105F 111	KOPPEK	Vein Au-Quartz	Prospect	Arsenic, Mercury, Zinc, Silver, Lead, Copper, Gold
105F 112	BOX	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Drifted Prospect	Copper, Zinc, Gold, Lead, Silver
105F 113	INTRO	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Showing	Barite
105F 114	AMBRIDGE	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Showing	Barite
105F 115	SURLET	Vein Polymetallic Ag-Pb-Zn+Au	Showing	Barite, Copper, Zinc
105F 116	ANGIE	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedes)	Drifted Prospect	Silver, Zinc
105F 117	AYDULCK	Skarn W	Showing	Tungsten
105F 118	HERRIDGE	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedes)	Drifted Prospect	Lead, Zinc, Gold, Silver
105F 119	KIELARUK	Skarn W	Showing	Tungsten
105F 120	IRISH	Skarn W	Showing	Copper, Silver, Zinc, Lead
105F 121	CANSKY	Skarn W	Anomaly	Uranium
105F 122	ALVIN	Porphyry W	Showing	Tungsten
105F 123	GRATER	Porphyry W	Showing	Tungsten
105F 124	HOWRU	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedes)	Prospect	Copper, Silver, Lead, Zinc
105F 125	GRANAM	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Prospect	Copper, Zinc, Silver, Lead
105F 126	BESAM	Skarn W	Showing	Tungsten
105F 127	MT. ROSS	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedes)	Prospect	Barite, Lead, Zinc
105F 128	KILLAND	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedes)	Showing	Silver, Zinc
105F 129	AMERLIN	Skarn W	Showing	Arsenic, Gold, Silver, Lead, Copper
105F 130	QUILLO	Vein Au-Quartz	Showing	Arsenic, Silver, Gold
105F 131	HILD	Unknown	Anomaly	Copper, Zinc, Lead, Tungsten, Silver
105F 132	MACKENZIE	Vein Polymetallic Ag-Pb-Zn+Au	Drifted Prospect	Antimony, Gold, Silver, Lead, Arsenic, Bismuth
105F 133	SEAGULL CREEK	Vein Au-Quartz	Drifted Prospect	Arsenic, Silver, Lead, Bismuth, Gold, Copper
105F 134	BALACHANK	Epithermal Au-Ag, Low Sulphidation	Prospect	Gold, Lead, Zinc, Silver
105F 135	MELT	Vein Polymetallic Ag-Pb-Zn+Au	Showing	Gold, Lead, Zinc, Silver
105F 136	RED	Skarn W	Showing	Drifted Prospect
105F 137	CHERPNOUGH	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Drifted Prospect	Barite, Silver, Zinc, Lead, Copper, Fluorite
105F 138	PRINACLE	Vein Polymetallic Ag-Pb-Zn+Au	Drifted Prospect	Barite, Silver, Zinc, Lead, Copper, Gold
105F 139	BREE	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Showing	Barite, Molybdenum, Zinc, Silver, Mercury, Gold, Lead
105F 140	WHYTE	Vein Polymetallic Ag-Pb-Zn+Au	Prospect	Arsenic, Silver, Copper, Gold, Lead
105F 141	TITRO	Vein Polymetallic Ag-Pb-Zn+Au	Prospect	Copper, Zinc, Silver, Gold, Lead
105F 142	MAYON	Volcanogenic Massive Sulphide (VMS) Kurko Cu-Pb-Zn	Drifted Prospect	Arsenic, Bismuth, Copper, Gold, Lead, Silver, Zinc
105F 143	KETZKEY	Vein Polymetallic Ag-Pb-Zn+Au	Drifted Prospect	Lead, Silver, Copper, Antimony, Gold
105F 144	LAME	Vein Polymetallic Ag-Pb-Zn+Au	Showing	Unknown
105F 145	PINKENBURG	Unknown	Unknown	Unknown
105F 146	JPSA	Unknown	Unknown	Unknown
105F 147	BROCKH	Epithermal Au-Ag-Cu, High Sulphidation	Anomaly	Unknown
105F 148	AGIP	Unknown	Anomaly	Unknown
105F 149	CHR	Unknown	Anomaly	Unknown
105F 150	BIG OX	Vein Polymetallic Ag-Pb-Zn+Au	Unknown	Unknown
105F 151	TRUE BLUE	Gemstone	Prospect	Gemstones
105F 152	ANWAYS	Unknown	Unknown	Unknown
105F 153	CHLINS	Unknown	Drifted Prospect	Unknown
105F 154	JADE	Unknown	Unknown	Unknown
105F 155	TIER	Unknown	Drifted Prospect	Unknown
105F 156	WALLI	Ultramafic-hosted asbestos	Unknown	Unknown
105F 157	WOLFF	Unknown	Unknown	Unknown
105F 158	MCNEE	Vein Polymetallic Ag-Pb-Zn+Au	Showing	Unknown
105F 159	HUNT	Unknown	Anomaly	Unknown
105F 160	COLD	Unknown	Unknown	Unknown
105F 161	DANGER	Vein Au-Quartz	Showing	Unknown
105F 162	CONTOUR	Unknown	Unknown	Unknown
105F 163	BOSS	Unknown	Unknown	Unknown
105F 164	DORK	Sediment hosted Stratiform Barite	Prospect	Unknown
105F 165	DOY	Unknown	Unknown	Unknown
105F 166	ASKIN	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedes)	Showing	Unknown
105F 167	KOLA	Vein Polymetallic Ag-Pb-Zn+Au	Drifted Prospect	Unknown



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RECOMMENDED CITATION

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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.

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Open File 2015-28
Stream Water pH (NTS 105F)
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