Occurrence Details

Occurrence Number: 105G 134
Occurrence Name: Puck
Occurrence Type: Hard-rock
Status: Prospect
Date printed: 4/29/2025 4:46:29 AM

General Information

Secondary Commodities: copper, lead, zinc
Deposit Type(s): Volcanogenic Massive Sulphide (VMS) Kuroko Cu-Pb-Zn
Location(s): 61°24'30" N - -130°5'40" W
NTS Mapsheet(s): 105G08
Location Comments: .5 Kilometres
Hand Samples Available: No
Last Reviewed:

Capsule

Work History

Staked as Puck cl 1-89 (YB55979) in Sep/94 by Expatriate Resources Ltd which carried out grid soil sampling, prospecting and preliminary geological mapping the following year. In Nov/95 Westmin Resources Ltd flew an airborne geophysical program over the claims as part of a larger regional survey. In Dec/95 Westmin optioned the claims as part of a larger joint venture agreement with Expatriate.
In 1996 Westmin carried out ground Max-min, mag and VLF geophysical programs over the claims followed by a 4 hole (908.9 m) diamond drill program. In Sep/96 Westmin and Expatriate formalized their option agreement and later in the fall, drilled 2 additional diamond drill holes (425.5 m). In Oct/96 Westmin staked Cup fractional cl 1-24 (YB87695) to cover gaps identified during a claim survey.
During the 1997 field season Westmin completed further ground geophysics and soil sampling and drilled 10 additional diamond drill holes (2 691 m). In Mar/98 Westmin Resources was acquired by Boliden Ltd.
In Apr/99 Expatriate Resources Ltd purchased all of Westmin¿s holdings in the Finlayson Lake district, including Westmin¿s 50% interest in the Puck/Cup claims, from Boliden, resulting in Expatriate reclaiming 100% interest in the claims.
In 2000, Expatriate drilled 1 diamond drill hole (344.12 m) on Foot cl #2 located across the claim boundary from the Puck claims.

Capsule Geology

The area is underlain by a Mississippian to Permian age, mixed volcano-sedimentary package belonging to the Yukon-Tanana Terrane (YTT). The YTT is a volcanic-plutonic, pericratonic arc assemblage that was strongly deformed and metamorphosed by late Triassic time. Volcanic hosted massive sulphide deposits exist at different stratigraphic positions within the YTT including the Fyre Lake deposit (Minfile Occurrence #105G 034) in Devonian to Early Mississippian Fire Lake mafic meta-volcanic unit (DMF), the Kudz Ze Kayah deposit (Minfile Occurrence #105G 117) in the Mississippian Kudz Ze Kayah felsic meta-volcanic unit (MK), the Wolverine deposit within the Carboniferous Wolverine Lake succession, and the Ice deposit (Minfile Occurrence #105G 118) within Pennsylvanian to Permian Campbell Range basalts.
The Puck claims cover the southern extension of the stratigraphic package which hosts the Wolverine deposit (Minfile Occurrence #105G 072), located 2.5 km to the northwest and the Sable zone located 250 m to the northwest. The Wolverine deposit, Sable zone and Puck occurrence are underlain by Murphy and Pierce¿s Carboniferous Wolverine Lake Succession (1999; 2000) consisting predominantly of carbonaceous phyllite and quartz sandstone (unit CWcp) overlain by a thin band of platy brown limestone (unit CWl) and thinly interbedded, massive to granular siliceous rock and phyllite (metatuff and exhalite) and baritic iron formation (unit CWt). On the northeast side of the property the Wolverine Lake Succession is overlain by the Pennsylvanian to Permian Campbell Range Succession comprised primarily of coarse basaltic breccia (unit]PCb1), carbonaceous argillite, sandstone and grey quartz grit (unit]PCs), and coarse basaltic breccia (unit]PCb2).
Murphy and Piercey of the Yukon Geology Program report that the Wolverine massive sulphide deposit and nearby mineralized zones (Fisher, Lynx, Sable) occur near the contact between unit CWcp, carbonaceous phyllite and quartz sandstone and unit CWt, massive to granular siliceous rock and lightly-colored phyllite. The baritic iron formation located near its base is employed as a marker. Bradshaw et al., who have carried out more detailed geological mapping, place the deposit at the contact between their units 5 and 6 which they define slightly different from Murphy and Pierce¿s units. Despite these differences, both groups place the deposit above the carbonaceous phyllite and below the overlying siliceous rocks.
The massive sulphides at the Wolverine deposit are hosted in either argillite or aphyric rhyolite. Carbonaceous argillite and a porphyritic felsic unit form the immediate footwall to the mineralization. Piercey et al. (2001) demonstrate that the Wolverine deposit, Sable zone and Puck occurrence are underlain by subvolcanic porphyritic intrusions located approximately 10-20 m beneath the exhalative sulphide bodies or iron formation. Interlayered carbonaceous argillites, felsic volcanic, fragmental and tuffaceous units and up to three beds of exhalite magnetite carbonate iron formation occur in the hanging wall. The massive tabular sulphide body is zoned, polymetallic, and displays banded, clastic and massive replacement textures. The deposit is located stratigraphically above the Kudz Ze Kayah deposit (Minfile Occurrence #105G 117) located 20 kilometres to the west.
At the Wolverine deposit sulphide intersections commonly have Mg-chlorite footwall alteration zones enveloping pyrite/ chalcopyrite/pyrrhotite stringer mineralization (Tucker et al., 1997). The main sulphide minerals, in order of decreasing abundance, are pyrite, sphalerite, chalcopyrite, and galena. Argentian tetrahedrite contains more than 90% of the silver in the deposit, the remainder occurring in solid solution with galena and in Au-Ag solid solution series. Au is present as Ag-rich native gold and Au-rich native silver. Gangue minerals associated with the massive sulphide are comprised of quartz, muscovite, calcite and dolomite-ankerite. Texturally the sulphide minerals are generally fine to medium grained. Ore minerals occur either interstitial to pyrite or as a matrix for disseminated pyrite (Tucker et al., 1997).
In 1995, the Expatriate conducted a prospecting and grid soil sampling program on the Puck claims. Extensive till coverage on the property resulted in a subdued geochemical response. Copper analysis returned the best results, highlighting a 1 200 by 1 000 m zone of weakly to moderately anomalous values at the north end of the property. Diamond drilling in 1996 and 1997 (4 025m in 16 holes) did not intersect massive sulphides but did confirm the presence of the favourable ¿Wolverine horizon¿, magnetite horizon, stockwork mineralization and strong alteration. Drill intersections included values such as; >10 000 ppm Cu, 1.16% Pb and 2.72% Zn (Turner and Terry, 1998). Westmin reports that the most promising target is located 250 metres east of the property boundary, where hole PK97-16 cut stockwork mineralization thought to be related to massive sulphide mineralization intersected in the neighbouring Sable Zone.
The single drill hole collared on Foot cl #2 was designed to test the down dip extension of high-grade sulphide mineralization found at the Sable zone. The hole failed to intersect economic mineralization.

References

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Work History

Date	Work Type	Comment
12/31/2000	Drilling	One hole, 344 m. Expatriate drilled I drill hole on Foot claim #2 located across claim boundary from Puck claims.
12/31/1997	Drilling	Ten holes, 2,691 m.
12/31/1997	Geochemistry	
12/31/1997	Ground Geophysics	Also Max-Min survey.
12/31/1996	Drilling	Four holes, 908.9 m, followed by two holes, 425.5 m later in year.
12/31/1996	Airborne Geophysics	Also magnetic survey.
12/31/1995	Other	
12/13/1996	Ground Geophysics	Also Max-Min and VLF surveys.
12/13/1995	Geology	
12/13/1995	Geochemistry	

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
097243	2018	2018 Geological and Geochemical Program Report on the Pelly Property	Orthophoto - Airphotography, Rock - Geochemistry, Detailed Bedrock Mapping - Geology		

096998	2016	2016 Geophysical Report on the Pelly Property	Magnetic - Airborne Geophysics, VTEM - Airborne Geophysics		
094616	2006	Assessment Report for Exploration Trail establishment, Surveying, Surface Sampling, and Overburden Evaluation on the Goalie Claims Between June 2 and July 19, 2006	Geotechnical - Studies		
094236	2000	Finlayson Project Description Report	Environmental Assessment/Impact - Studies, Geotechnical - Studies, Heritage/Archeological - Studies		
093790	1997	1997 Summary Report Ground Geophysical and Geochemical, and Diamond Drill Programs on the Puck 1-80 and Cup 1-24 Claims Finlayson Area, Yukon Territory	Diamond - Drilling, Soil - Geochemistry, EM - Ground Geophysics, Magnetics - Ground Geophysics	5	2691
093652	1996	1996 Summary Report Airborne and Ground Geophysical, and Diamond Drill Programs Conducted on the Puck 1-80 Claims, Finlayson Lake Area, Yukon Territory	Diamond - Drilling, EM - Ground Geophysics, Magnetics - Ground Geophysics, Line Cutting - Other	4	908.90
093584	1996	Dighem V Survey for Westmin Resources Limited Wolverine Lake Project Yukon	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics		
093414	1995	Assessment Report Describing Prospecting and Geochemical Surveys on the Puck 1-80 Claims	Soil - Geochemistry, Prospecting - Other		

Related References

Number	Title	Page(s)	Reference Type	Document Type
ARMC016590	Geochemical map - 105G/8 - Wolverine Lake		Property File Collection	Geochemical Map
ARMC016578	Geology map - 10G/8 - Wolverine Lake		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC017622	Geochemical map of Wolverine Lake - Cu, Pb, Zn, Mn, Mo.W		Property File Collection	Geochemical Map