Occurrence Details

Occurrence Number: 105G 120
Occurrence Name: Blue Line
Occurrence Type: Hard-rock
Status: Showing
Date printed: 10/3/2025 8:50:56 PM

General Information

Secondary Commodities: copper, gold, lead, silver, zinc
Deposit Type(s): Volcanogenic Massive Sulphide (VMS) Kuroko Cu-Pb-Zn
Location(s): 61°20'49" N - -130°54'16" W
NTS Mapsheet(s): 105G07
Location Comments: .5 Kilometres
Hand Samples Available: No
Last Reviewed:

Capsule

Work History

Staked as Blue Line cl 1-32 (YB60514) in Aug/95 by Expatriate Resources Ltd. The claims make up part of Expatriate¿s Slap Shot property. In the spring of 1996 the company flew an airborne geophysical survey over the claims followed by grid and contour soil sampling later in the year. Expatriate staked Blue Line cl 33-34 (YB89605) in Jul/97 and then carried geological mapping, prospecting, hand trenching and soil sampling. In 1998 the company dug numerous hand trenches on and around the occurrence.
In December 2004, Expatriate reorganized and changed its name to Yukon Zinc Corporation.

Capsule Geology

Geological mapping in the Finlayson Lake area (Murphy et al., 2001) shows the area is dominantly underlain by a layered sequence of Devonian to Early Mississippian metavolcanic and metasedimentary rocks 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 the Devonian to lower Mississippian(?) Fire Lake mafic metavolcanic unit, the Kudz Ze Kayah deposit (Minfile Occurrence #105G 117) in the Mississippian Kudz Ze Kayah felsic metavolcanic unit, and the Wolverine deposit (Minfile Occurrence #105G 072) within the Lower Mississippian Wolverine Succession.
Expatriate's geological mapping displays a high degree of correlation with that reported in Murphy et al. (2001). It shows that the area is underlain by biotite-muscovite-feldspar-quartz schist and micaceous quartzite and marble (unit Dq). Biotite-plagioclase-actinolite-chlorite schist (unit Dm) and Fire Lake metavolcanics (feldspar-muscovite-quartz schist) occur locally. To the southwest, granitic to monzonitic metaplutonic rocks of the Early Mississippian Grass Lakes Plutonic Suite intrude unit Dq calcareous rocks. Geological characteristics and stratigraphic relations suggests that the metaplutonic rocks are sills that flowed from dykes lying along the trend of thickness changes in the surrounding metavolcanic and metasedimentary rocks. A Cretaceous granitic intrusion intrudes the sequence to the northwest.
Prospecting conducted in 1996 outlined a series of prominent orange-weathering gossans along a ridge in the north-central portion of the Blue Line claim block. The gossans are predominantly hosted by micaceous quartzite of probable felsic volcanic protolith and contain 1 to 2% disseminated pyrite, with higher concentrations occurring along foliation planes. Peak values from rock samples collected in the vicinity of the gossans include 561 ppm Cu, 4240 ppm Zn, 4740 ppm Pb, 5.2 ppm Ag and 9060 ppm As. Grid and reconnaissance soil samples collected in the vicinity of the gossans returned strongly anomalous values for Cu, Pb, Zn, Mo and Ag.
The 1996 airborne magnetic/EM survey outlined two positive magnetic anomalies and one EM conductor within the Blue Line claim block. One of the magnetic anomalies coincides with the area hosting the gossans and anomalous soil results, while the second was likely caused by poor topographic control. The EM conductor parallels the surface trace of the felsic volcanic horizon which hosts the gossans and soil anomalies.
Geological mapping completed in 1997 and 1998 outlined a large body of Fire lake metavolcanic rocks (feldspar-muscovite-quartz schist) and biotite-plagioclase-actinolite-chlorite schist (unit Dm) lying in the centre of the claim block. Although numerous small mineralized occurrences were noted throughout the property, geophysics, soil sampling and prospecting defined 2 targets within the Fire Lake felsic volcanic rocks.
Target 1 (the occurrence) covers the surface trace of the felsic volcanic horizon and strong coincidental geochemical response for Cu, Pb and Zn. Prospecting uncovered abundant sulphide and limonite bearing float across the entire area and hand trenches were dug on outcrop sources. Trench TR-98A exposed a tightly folded section of felsic schist and interlayered metarhyolite exhibiting chlorite-sericite alteration. Two continuous, 1 m chip samples taken across the strongest alteration averaged 0.8 g/t Ag, 37 ppm Cu, 972 ppm Pb and 2224 ppm Zn. Limonitic semi-massive pyrite and galena-bearing marble float collected from the soil profile near the northern end of the trench returned 8.2 g/t Ag, 835 ppm Cu, 6 350 ppm Pb and 6140 ppm Zn. Neighbouring trenches cut a 4.6 m section of non-calcareous metarhyolite containing sericite and chlorite partings plus thin foliaform wisps of sphalerite. A 1.5 m chip sample across the zone returned 1.6 g/t Ag, 84 ppm Cu, 198 ppm Pb and 2710 ppm Zn. Arsenopyrite-chalcopyrite bearing quartz vein float found 600 southeast (near the head of a cirque) returned up to 8.8 g/t Ag, 40 ppm Cu 186 ppm Pb, 14 ppm Zn, > 10 000ppm As, 912 ppm Bi and 10.29 g/t Au. Cursory prospecting failed to locate any additional mineralization in this area.
Target 2, located about 800 m to the northeast, covers the northernmost exposure of the felsic volcanic stratigraphy. Mineralization was found in two float trains on a steep, talus covered, north-facing cirque wall. Sphalerite and lesser pyrite occur as foliaform wisps and coarse disseminations within rusty weathering, white sucrosic felsic schist. A float sample collected from the top of one of the float trains returned 3.0 g/t Ag, 215 ppm Cu, 395 ppm Pb and 6.43% Zn. Two hand trenches dug near the top of one of the float trains, exposed a banded succession of pale green, biotite-chlorite quartzite and orange weathering felsic schist. A 7.1 m chip sample taken across the floor of one trench returned only weakly elevated Zn (2 510 ppm), however soil profiles from both trenches yielded up to 1.2 g/t Ag, 169 ppm Cu 1355 ppm Pb and 8540 ppm Zn.
Prospecting discovered foliaform sphalerite and galena within carbonaceous quartzite float approximately 1 km northwest of Target 2. Mineralized specimens up to 7 cm thick were found within unvegetated seeps developed along a break in slope. A float sample returned 9.0 g/t Ag, 642 ppm Cu, 4.22% Pb and 4.29% Zn. Follow-up prospecting was thwarted by thick vegetation cover on the surrounding slopes.
Expatriate speculated that the felsic horizon hosting targets 1 and 2 have the potential to host Kuroko-type volcanogenic massive sulphide (VMS) mineralization.

References

BOND, J.D., MURPHY, D.C., COLPRON, M., GORDEY, S.P., PLOUFFE, A., ROOTS, C.F., LIPOVSKY, P.S., STRONGHILL, G., AND ABBOTT, J.G., 2002. Digital compilation of bedrock geology and till geochemistry, northern Finlayson Lake map area, Southeastern Yukon (105G), Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File Report, 2002-7(D) and Geological Survey of Canada Open File 4243.

EXPATRIATE RESOURCES LTD, Apr/97. Assessment Report #093587 by W.D. Eaton.

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MURPHY, D.C. and PIERCEY, S.J., 1999. Geological map of parts of Finlayson Lake (105G/7, 8 and parts of 1, 2, and 9) and Frances Lake (parts of 105H/5 and 12) map areas, southeastern Yukon (1:100 000-scale). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1999-4.

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MURPHY, D.C., COLPRON, M., GORDEY, S.P., ROOTS, C.F., ABBOTT, G., AND LIPOVSKY, P.S., 2001. Preliminary bedrock geological map of northern Finlayson Lake area (NTS 105 G) Yukon Territory (1:100 000 scale). Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 2001-33.

MURPHY, D.C., COLPRON, M., ROOTS, C.F., GORDEY, S.P. AND ABBOTT, J.G., 2002. Finlayson Lake Targeted Geoscience Initiative (southeastern Yukon) , Part 1: Bedrock geology. In: Yukon Exploration and Geology 2001, D.S. Emond, L.H. Weston and L.L. Lewis (eds.), Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, p. 189-207.

Work History

Date	Work Type	Comment
12/31/1998	Geology	
12/31/1998	Trenching	
12/31/1998	Other	
12/31/1997	Geology	
12/31/1997	Geochemistry	
12/31/1997	Trenching	
12/31/1997	Other	
12/31/1996	Geochemistry	Grid and contour soil sampling.
12/31/1996	Airborne Geophysics	Also magnetic survey.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
095434	2010	Assessment Report of Geology, Geochemistry and Geophysics Work Completed on the Slapshot Property Yukon Territory, Canada	Rock - Geochemistry, Detailed Bedrock Mapping - Geology, EM - Ground Geophysics, Magnetics - Ground Geophysics, Prospecting - Other		
093995	1998	Assessment Report Describing Geological Mapping and Prospecting at the Slap Shot Property	Rock - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology		
093818	1997	Assessment Report Describing Geological Mapping, Prospecting and Soil Sampling at the Slap Shot Property	Soil - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other, Hand - Trenching		
093587	1996	Assessment Report Describing Geological Mapping, Soil Sampling, Geophysical Surveying and Diamond Drilling at the Slap Shot Property	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Diamond - Drilling, Soil - Geochemistry, Bedrock Mapping - Geology, EM - Ground Geophysics, Magnetics - Ground Geophysics, Line Cutting - Other, Prospecting - Other, Hand - Trenching	3	396
093655	1996	Report on a Combined Helicopter-Borne Electromagnetic and Magnetic Survey, Goal Net, Hat Trick, League, Offside, Power Play, Shutout and Slapshot Properties	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics		