Occurrence Details

Occurrence Number: 105G 130
Occurrence Name: League
Occurrence Type: Hard-rock
Status: Prospect
Date printed: 12/16/2025 9:45:13 PM

General Information

Secondary Commodities: copper, lead, silver, zinc
Deposit Type(s): Volcanogenic Massive Sulphide (VMS) Kuroko Cu-Pb-Zn
Location(s): 61°31'15" N - -130°46'32" W
NTS Mapsheet(s): 105G10
Location Comments: .5 Kilometres
Hand Samples Available: No
Last Reviewed:

Capsule

Work History

Staked as League cl 1-20 (YB59143) in Mar/95 by Expatriate Resources Ltd. Between July and Oct/95 the company staked League cl 21-308 (YB60204) and during this period carried out grid soil sampling, geological mapping, prospecting and ground geophysical surveying.
In Feb/96 Expatriate carried out airborne geophysical EM and magnetometer surveying of the League claims. Later in the year the company carried out geological mapping, prospecting, soil sampling, ground magnetic and Maxmin geophysical surveying and drilled 6 holes (1 153 m). In 1997 Expatriate completed further hand trenching and soil sampling.
In 2000 the company carried out detailed soil sampling, geological mapping and prospecting in the northeast corner of the claim block and staked NL cl 1-30 (YC22607) along the northeast boundary of the League claim block in Nov/2000. In 2003, Expatriate reinterpreted the 1996 airborne survey and granted an option to Entourage Mining Ltd to earn an interest in any gem materials discover on the NL claims. Entourage subsequently carried out reconnaissance geochemical soil sampling in Sep/2003.
Expatriate changed its name to Yukon Zinc Corpoartaion in Dec/2004.

Capsule Geology

The bedrock geology of the region was mapped by Murphy et al., (2001). Murphy's map shows the area underlain by a layered sequence of Upper Devonian to Lower Mississippian metasedimentary and metavolcanic rocks of the Yukon-Tanana Terrane (YTT) that have been intruded by Jurassic and Cretaceous granitic intrusion. 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
The area underlying the League claims is predominantly covered by glacial overburden. Outcrop and subcrop exposures are rare but have been observed around the periphery of a few knolls. Eaton and Pigage (1997) of Expatriate Resources used surface mapping supplemented by drill core to map out three principal domains across the claim block. Each domain is defined by differing lithologic sequences and foliation orientations and is separated by east trending, near vertical faults partially delineated by strong electromagnetic conductors.
The southern domain is predominantly composed of chloritic phyllites believed to belong to Murphy's Fire Lake metavolcanic unit (unit DF). It shows a broad magnetic high trending N60°E, which correlates with the inferred bedrock in the area. The central domain consists of a variety of rock types believed to belong to the Grass Lakes Succession, including the Kudz Ze Kayah felsic meta-volcanic (unit DK) and other units, which show low magnetic relief. The rock types include carbonaceous phyllite and siltstone with lesser interbeds of felsic volcanics, chloritic phyllite, argillaceous limestone and quartzite. Prospecting and geological mapping uncovered quartz-feldspar porphyry material in float and subcrop, occurring in the centre of the domain. The occurrence was mapped as a porphyry plug but a diamond drill hole collared on it did not encounter any feldspar porphyry. The northern domain consists of a felsic volcanic package which is underlain by moderately carbonaceous, thinly bedded, calcareous phyllites. It appears to correlate with Murphy's unit DK and possibly unit DKcp.
Grid soil sampling in 1995 over the north central area of the claim block, outlined a 1 500 by 600 m northeast-trending coincident lead-zinc-molybdenum-tin-arsenic-manganese-gold anomaly, centred over northern domain rocks. The Maxmin, VLF and magnetic surveys, completed in the core area of the property, produced strong, multi-frequency max-min conductors with weak magnetic response coincident with the soil anomalies.
Detailed geologic mapping by Eaton and Pigage, (1997) indicates that the soil anomalies are associated with a muscovite-quartz phyllite (unit DK ?) located structurally beneath a massive aphanitic grey rhyolite and above massive chloritic basalts. However Murphy's work suggests that these rocks may be part of the older Fire Lake mafic metavolcanic unit.
The 1996 diamond drilling tested the geochemical and geophysical anomalies coincident with the rhyolite unit. Three of the drill holes successfully tested the rhyolite unit while the remainder intersected mafic metavolcanics and lesser phyllite, chert and siltstone. Lack of surface exposure and faulting hampered drill hole targeting and drilling. As well the airborne EM results show large areas of complex conductivity typical of areas underlain by relatively flat lying sequences graphitic rich sediments further complicating target selection.
Eaton and Pigage (1997) suggest that the hydrothermal style of stringer mineralization found within the northern felsic volcanic unit may be distal to more massive sulphide mineralization within the same horizon. Drilling intersected several thin sulphide-quartz stringers with sphalerite, galena and pyrite in meta-rhyolite and muscovite-quartz phyllite. Some of the better assay values were 0.01% copper, 0.87% lead and 0.1% zinc over 1.29 m and 0.01% copper, 0.07% lead and 0.42% zinc over 1.48 m.
The 1997 soil sampling program further defined the 'core zone' of the main soil anomaly located in 1995. Three hand trenches dug in overburden uphill of the ¿core zone¿, confirmed that glacial dispersion was not a factor in the area. The best results from trenching included, 3.4 g/t silver, 35 ppm copper, 1405 ppm lead and 994 ppm zinc over 0.8 m of rusty light brown clay rich soil.
The 2000 soil sampling program was carried out to investigate a strong linear airborne magnetic anomaly and a lead-zinc soil anomaly identified in previous exploration programs. The program outlined three anomalies; A, B and C. Anomaly A is located 7 km northeast of the occurrence and consists of three clusters of anomalous lead and zinc values. One of the clusters returned anomalous zinc values. Anomaly B is located 6 km northeast of the occurrence and consists of a 1200 by 200 m area that return anomalous lead, zinc and copper values. Anomaly C is located 8 km to the northeast and consists of a 1100 by 400 m area of mild lead response within which are weakly anomalous lead, zinc and copper values. Three hand pits were dug within Anomaly B and a sericite rich gouge material was sampled. The samples contained 5 to 40% orange-brown limonite schist fragments and returned up to 294 ppm lead, 1030 ppm zinc, 179 ppm copper and 0.8 g/t Ag.
Geological mapping carried out around the soil grid identified a relatively thick section (60 m) of strongly sericite altered felsic schist and phyric to aphyric rhyolite underlain by an unknown thickness of shaly argillite. The actual stratigraphic position relative to the Wolverine and Kudz Ze Kayah successions is not known but it is likely that the League claims lies somewhere near the transition between the two successions. Expatriate theorized that the mineralization observed on the League claims was distal to massive sulphide deposits within the same stratigraphic horizon.
No bedrock exposures were encountered during soil sampling of the NL claims, which regional mapping suggests are underlain by the Grass Lakes succession consisting of Upper Devonian felsic and mafic meta-volcanic rocks of the Kudz Ze Kayah and Fire Lake units. These are shown to be intruded by a Jurassic granitic pluton in the southwestern portion of the claims and 1 km diameter stock of Cretaceous aged granite in the central portion, an interpretation only partially supported by the reinterpreted magnetic data. Analysis of the samples for Be, Cr, Cu, Mo and Ni returned only background levels for these elements and were not considered to reflective of any beryl-mineralized areas.

References

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ENTOURAGE MINING LTD and EXPATRIATE RESOURCES LTD, Dec/2003. Assessment Report #094428 by C.G. Verley.

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EXPATRIATE RESOURCES LTD, Dec/2000. Assessment Report #094231 by W.A. Wengzynowski.

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EXPATRIATE RESOURCES LTD, May/2003. Assessment Report #094383 by J. Klein.

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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., ET AL., 2001. Preliminary bedrock geological map of northern Finlayson Lake area (NTS 105G), 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., ET AL., 2002. Finlayson Lake Targeted Geoscience Initiative (southern 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.

YUKON EXPLORATION AND GEOLOGY 1996, p. 17.

YUKON ZINC CORPORATION, News Release, 17 Dec/2004.

Work History

Date	Work Type	Comment
12/31/2003	Geochemistry	
12/31/2003	Airborne Geophysics	Reinterpretation of 1996 airborne survey.
12/31/2000	Geology	Work was carried out in northeast corner of claim block.
12/31/2000	Geochemistry	
12/31/2000	Other	
12/31/1997	Geochemistry	
12/31/1997	Trenching	
12/31/1996	Drilling	Six holes, 1,153 m.
12/31/1996	Geology	
12/31/1996	Geochemistry	
12/31/1996	Airborne Geophysics	Also magnetic survey.
12/31/1996	Other	
12/31/1995	Geology	
12/31/1995	Geochemistry	
12/31/1995	Ground Geophysics	Also VLF and Maxmin surveys.
12/31/1995	Other	
12/13/1996	Ground Geophysics	Also Maxmin survey.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
			Diamond - Drilling, Drill Core - Geochemistry, Rock - Geochemistry		

095586	2011	Geology, Geochemistry and Drilling Work Completed on the League Property	Diamond - Drilling, Drill Core - Geochemistry, Rock - Geochemistry, Soil - Geochemistry, Line Cutting - Other, Prospecting - Other, Digitizing Data - Pre-existing Data	6	645
095432	2010	Assessment Report of Geology, Geochemistry and Geophysics Work Completed on the League Property Yukon Territory, Canada	Rock - Geochemistry, Detailed Bedrock Mapping - Geology, EM - Ground Geophysics, Magnetics - Ground Geophysics, Prospecting - Other		
094573	2004	Assessment Report Describing Prospecting on the League Property	Rock - Geochemistry, Soil - Geochemistry, Prospecting - Other		
094383	2003	Reinterpretation of Helicopter Electromagnetic and Magnetic Data Collected Over the League Property, Yukon Territory, by Aerodat Inc. (Now Fugro Airborne Surveys) During February to April 1996 on Behalf of Expatriate Resources Ltd. Project J9603	Process/Interpret - Pre-existing Data		
093817	1997	Assessment Report Describing Soil Sampling and Hand Trenching at the League Property	Soil - Geochemistry, Hand - Trenching		
093571	1996	Assessment Report Describing Geological Mapping, Soil Sampling, Geophysical Surveying and Diamond Drilling at the League 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	6	1153
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		
093493	1995	Assessment Report Describing Geological Mapping, Prospecting, Geochemistry and Geophysical Surveys on the League Property	Soil - Geochemistry, Bedrock Mapping - Geology, EM - Ground Geophysics, Magnetics - Ground Geophysics, Line Cutting - Other, Prospecting - Other		

Related References

Number	Title	Page(s)	Reference Type	Document Type
ARMC016587	Geochemical map - 105G/10 - Finlayson Lake		Property File Collection	Geochemical Map
ARMC016581	Geology map - 105G/10 - Finlayson Lake		Property File Collection	Geoscience Map (Geological - Bedrock)

Drill core at YGS core library

Number	Property	Year Drilled	Core Size	Photos	Data
LEA-10-01	Lea	2010	NTW-BTW	0	6
LG-96-02	League	1996	NQ	4	2
LG-96-03	League	1996	NQ	12	2
LG-96-04	League	1996	NQ	22	2