



Occurrence Details

Occurrence Number: 105G 124

Occurrence Name: Red Line

Occurrence Type: Hard-rock

Status: Prospect

Date printed: 12/16/2025 6:50:46 AM

General Information

Secondary Commodities: copper, lead, silver, zinc

Deposit Type(s): Volcanogenic Massive Sulphide (VMS) Kuroko Cu-Pb-Zn

Location(s): 61°25'30" N - 130°21'53" W

NTS Mapsheet(s): 105G08

Location Comments: .5 Kilometres

Hand Samples Available: No

Last Reviewed:

Capsule

Work History

Staked as Red Line cl 1-12 (YB60825) in Aug/95 by Expatriate Resources Ltd. The company carried out grid soil sampling, geological mapping and prospecting later in the season. In Oct/95 Expatriate staked Red Line cl 13-28 (YB70624). In Feb/96 the company completed a Maxmin/magnetometer survey over the claims and in Jun/96 drilled 6 diamond drill holes (851 m) to test various coincident soil and geophysical anomalies.

In Dec/95 Cominco Ltd staked Ang cl 1-39 cl (YB71309) south and east of the Red Line claims. Cominco flew a combined helicopter-borne EM/magnetometer survey over the claims in March and Apr/96 and carried out follow-up ground geophysical surveying in Mar/99.

In 1998 Expatriate re-logged the core from the 1996 drill program. The following year based on a new interpretation of the regional geology, the company re-mapped and prospected the Red Line claim block and dug a single hand trench and numerous soil pits to verify their interpretation. In 2000 the company carried out an Induced Polarization survey over the area previously tested by diamond drilling.

Capsule Geology

The region has been geologically mapped by Murphy and Piercey (1999) and Murphy et al., (2001). In addition Hunt (2002) has reported on the numerous volcanic-associated massive sulphide occurrences in the region. The occurrence is underlain by metavolcanic rocks of the Upper Devonian to Lower Mississippian Kudz Ze Kayah felsic metavolcanic unit, which have in turn been intruded by Mississippian metaplutonic rocks of the Grass Lakes Plutonic Suite.

Initial mapping by Expatriate Resources reported that the Red Line claims were mainly underlain by a sequence of interbanded massive and augen gneisses, with minor felsic volcanic rocks occurring as foliaform dykes and sill interbedded with the gneisses. Major minerals within the gneisses are quartz-plagioclase-K-feldspar-muscovite-biotite. The felsic volcanics were described as consisting of thin, dark green, massive, biotite-chlorite-feldspar-quartz schists or greenstones.

Grid soil sampling delineated a 200 m by 500 m anomaly defined by strongly anomalous copper and zinc values. The anomalous area is located in the north/central region of the property with the highest values clustered in the immediate vicinity of a recessive linear from which weakly magnetic limonite boxwork float was collected. Geophysics outlined a 700 m long magnetic high, roughly coincident with an east-west trending Maxmin conductor, centred over the area of maximum geochemical response.

The six drill holes (851 m), drilled by Expatriate in 1996 were collared to test the coincident geophysical/geochemical anomalies outlined in 1996. All of the holes intersected massive and augen gneiss, consisting dominantly of quartz-feldspar-muscovite with variable amounts of biotite. Greenstone interbands ranging up to 10 m in thickness but more commonly 0.1 m to 3 m in thickness occur in both the augen gneisses and the massive gneisses. All of the holes intersected disseminated to wispy stringer sulphides associated with coarse grained, white quartz veins. The best mineralized intersection was recovered from hole RD96-01 which returned 5.60% copper, 0.08% lead, 0.50% zinc and 76.6 g/t silver over 0.11 m.

Re-interpretation of the geology, following the re-logging of the drill core in 1998, suggests that the drill holes intersected a broad sequence of interbanded metaporphyry and rhyolite mineralized with disseminated pyrite and pyrrhotite containing minor chalcopyrite, sphalerite and galena. The sequence is thought to be equivalent to the basal portion of the Kudz Ze Kayah felsic metavolcanic unit and is similar in stratigraphy and mineralogy to the unit which hosts the GP4F deposit (Minfile Occurrence #105G 143). The best mineralization is contained within the basal section of the sequence which projects to surface, near the up-ice limit of the soil geochemical anomaly. Massive and semi-massive sulphides were intersected in three holes within what appears to be a discontinuous horizon. This horizon lies near the base of the felsic cycle and is believed to represent one mineralized event. Sulphide mineralization and alteration such as encountered within the area of diamond drilling are characteristic of the distal edge of a volcanic-associated massive sulphide stringer edge.

Prospecting, trenching and hand pitting carried out within the area described as containing felsic volcanic stratigraphy, uncovered float and outcrop containing strongly sericitic altered felsic volcanic fragmental and metarhyolite containing up to 15% total sulphide, 95% of which is foliaform disseminate pyrite. Various types of samples returned up to 7.6 g/t silver, 8440 ppm zinc, 6760 ppm lead and 184 ppm copper.

The 2000 I.P. geophysical survey identified two east trending chargeability highs. The first was located at the south end of the grid and roughly coincides with the area drill-tested in 1996. The second was located at the north end and trends acutely across a less intense copper-zinc-lead soil anomaly that is at least partially attributed to glacial dispersion. Mapping identified felsic volcanics and orthogneiss present in the area.

The Ang claims are thought to be underlain by felsic volcanics belonging to unit DK.

Ground geophysical surveying of the Ang claims, consisting of Maxmin and magnetometer surveying was carried out on two small grids positioned to cover two weak airborne EM conductors identified in the 1996 survey. Cominco determined that both of the conductors were too narrow and of too low conductance to be of interest as massive sulfide targets.

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.

COMINCO LTD, Feb/97. Assessment Report #093550 by R.W. Holroyd.

COMINCO LTD, Apr/99. Assessment Report #093974 by P.A. MacRobbie and R.W. Holroyd.

DICK, L.A., 1980. A Comparative study of the geology, mineralogy and conditions of formation of contact metasomatic mineral deposits in the Northeastern Canadian Cordillera. Unpublished PhD Thesis, Queen's University.

EXPATRIATE RESOURCES LTD, 2002. Annual Report.

EXPATRIATE RESOURCES LTD, Aug/96. Assessment Report #093491 by W.A. Wengzynowski.

EXPATRIATE RESOURCES LTD, Apr/97. Assessment Report #093585 by L.C. Pigage.

EXPATRIATE RESOURCES LTD, Apr/97. Assessment Report #094138 by W.A. Wengzynowski.

EXPATRIATE RESOURCES LTD, Apr/97. Assessment Report #094181 by W.A. Wengzynowski.

EXPATRIATE RESOURCES LTD, Dec/2000; Jul/2003. Web Site: www.expatriateresources.com

HUNT, J.A., 2002. Volcanic-associated massive sulphide (VMS) mineralization in the Yukon-Tanana Terrane and coeval strata of the North American miogeocline, in the Yukon and adjacent areas. Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Bulletin 12, 107 p.

MINERAL INDUSTRY REPORT 1973, p. 87.

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.

MURPHY, D.C. AND PIERCEY, S.J., 2000. Syn-mineralization faults and their re-activation, Finlayson Lake massive sulphide district, Yukon-Tanana Terrane, southeastern Yukon. In: Yukon Exploration and Geology 1999, D.S. Emond and L.H. Weston (eds.), Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 55-66.

MURPHY, D.C., et al., 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., 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 GEOLOGY AND EXPLORATION 1979-80, p. 180.

Work History

Date	Work Type	Comment
12/31/1999	Geology	Work carried out on Red Line claims by Expatriate Resources.
12/31/1999	Ground Geophysics	Also Max-min surveys over Cominco's Ang claims.
12/31/1999	Trenching	Work carried out on Red Line claims by Expatriate Resources.
12/31/1999	Other	Work carried out on Red Line claims by Expatriate Resources.
12/31/1998	Pre-existing Data	Expatriate re-logged and re-sampled diamond drill core.
12/31/1996	Drilling	Six holes, 851 m. Tested coincident geophysical and geochemical anomalies.
12/31/1996	Ground Geophysics	Also Max-Min survey.
12/31/1995	Geology	
12/31/1995	Geochemistry	
12/31/1995	Other	
12/13/1999	Ground Geophysics	On Expatriate's claims.
12/13/1996	Airborne Geophysics	Also magnetic survey.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
095026	2008	Assessment Report Describing Line Cutting on the Red Line claims	Line Cutting - Other		
094138	1999	Assessment Report Describing Geological Mapping, Prospecting and Hand Trenching on the Red Line claims	Rock - Geochemistry, Bedrock Mapping - Geology, Backhoe - Trenching		
093550	1996	Report on a Helicopter-Borne Electromagnetic and Magnetic Survey	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics		
093585	1996	Assessment Report Describing Drilling on the Red Line Property	Diamond - Drilling, Diamond - Drilling, Bedrock Mapping - Geology, Bedrock Mapping - Geology, Petrographic - Lab Work/Physical Studies	12	1702
093491	1995	Assessment Report Describing Prospecting, Geochemical and Geophysical Surveys on the Red Line Property	Soil - Geochemistry, Bedrock Mapping - Geology, EM - Ground Geophysics, Magnetics - Ground Geophysics, Prospecting - Other		

Drill core at YGS core library

Number	Property	Year Drilled	Core Size	Photos	Data
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RD96-01	Red Line	1996	NQ	5	3
RD96-02	Red Line	1996	NQ	8	2
RD96-05	Red Line	1996	NQ	11	2