



Occurrence Details

Occurrence Number: 105G 016

Occurrence Name: El

Occurrence Type: Hard-rock

Status: Prospect

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General Information

Secondary Commodities: arsenic, asbestos, barite, gold, lead, silver, zinc

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

Location(s): 61°28'26" N - -131°18'42" W

NTS Mapsheet(s): 105G06

Location Comments: .5 Kilometres

Hand Samples Available: No

Last Reviewed:

Capsule

Work History

Staked as Dan cl (71086) in Sep/55 by J.L. Chisholm for Newmont Mining Corporation of Canada Ltd. Restaked in Jan/66 as the El cl 1-60 (90012) by Northlake Mines Ltd (Augustus Exploration Ltd, Copper Ridge Mines Ltd, Silver Standard Mines Ltd, Transcontinental Resources Ltd, North Pacific Mines Ltd), which conducted an airborne mag and EM survey, prospecting and grid soil sampling in 1966 and drilled 4 holes (324 m) in 1967. Black added the Pluto cl (Y74679) on the northwest side in Mar/74. Restaked as Pelly cl 1-32 (Y83037) in Jun/74 by Empire Metals Corp Ltd, which mapped and geochemical sampled in 1975 and 1976 and changed its name to Sovereign Metals Corp in 1976. The Pelly group was optioned first to Texasgulf Inc in 1975 and the next year to St Joseph Explorations Ltd, which performed a geochemical survey in 1976. The magnetic anomaly on the northwest side was staked as Mag cl 1-120 (YB11398) in Jan/88 by Welcome North Mines Ltd, which performed mapping, prospecting and soil sampling later that year. Restaked in Jun/94 as part of Tin cl 1-96(YB49431) by Cominco Ltd. The claims cover existing showings and airborne geophysical targets identified from a Cominco survey conducted in 1994. Work carried out in 1994 and 1995 consisted of mapping and limited soil, silt and rock sampling. In 1995 Cominco carried out a program of mapping, prospecting and soil sampling. In Feb/96 Cominco added Tin cl 97-347 (YB77185) to its claim block and later in the year flew a helicopter borne electromagnetic and magnetic survey over the Tin claims.

Capsule Geology

The area is underlain by a layered sequence of Devonian-Mississippian metasedimentary and metavolcanic rock units 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 Minfile Occurrence #105G 072) within the Carboniferous Wolverine Lake succession, and the Ice deposit (Minfile Occurrence #105G 118) within Pennsylvanian to Permian Campbell Range basalts. Two types of mineral occurrences exist in the area. The Dan and Pluto groups covered an occurrence of asbestos fibre found as float. Early reports suggested the fibre was up to 0.32 cm (1/8 inch) long but it appears that the fibre is actually short and spiky with little economic value. The float is derived from a Permian or older dunite body that outcrops on the mountain to the west. Northlake staked the El group to cover strong copper silt anomalies with fairly weak lead-zinc response. Soil sampling gave a weak zinc anomaly 850 m long and 120 m wide with partially coincident lead values. Lead, zinc and silver mineralization was found to occur as conformable bands in feldspar augen schist near the contact with underlying chlorite schist. The feldspar augen schist unit is believed to be a metamorphosed middle to late Devonian felsic tuff. The 1966/67 trenching and drilling tested geochemical/EM targets in graphitic schist near the ultramafic contact and located a narrow zone of stratabound sphalerite with minor galena and pyrite. The best drill assays were 0.6% Pb, 0.6% Zn and 6.87 g/t Ag across 11.3 m in Hole 1 (including 1.2 m of 2.5% Zn, 0.8% Pb and 10.3 g/t Ag). A grab sample from a trench assayed 26.8% Pb, 0.5% Zn and 20.6 g/t Ag. Work by Empire Metals in 1974 delineated a 100-200 m by 1000 open ended zinc anomaly (>250 ppb) over sericite schist and graphitic schist. The 1988 soil sampling outlined scattered weak gold anomalies within broader strong arsenic anomalies that coincide with quartz-carbonate alteration zones in the hanging wall of a thrust fault. Cominco remapped the underlying geology and correlated it with the existing knowledge of stratigraphic units of the YTT; the most important of which was the identification of felsic metavolcanic rocks in the western half of the property. This sequence includes dense, aphyric felsic flows and feldspar augen schists described as being similar in character and chemistry and possibly comparable in age, to rock units located in the Kudz Ze Kayah area. Cominco geologists mapped the El showing and describe it as being hosted by felsic volcanic rocks which are variably Fe-carbonate altered. Veins and disseminations contain sphalerite +/- galena-pyrite. A barite soil anomaly located between felsic flow rocks and feldspar crystal tuff suggests a barite rich stratigraphic horizon. Interpretation of geophysical anomalies on the eastern half of the property suggest carbonaceous sediments or structures and magnetic mafic intrusive rocks as a likely source.

References

COMINCO LTD, Feb/96. Assessment Report #093331 by P.A. MacRobbie.

COMINCO LTD, Mar/96. Assessment Report #093391 by P.A. MacRobbie.

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

EMPIRE METALS CORP, Dec/74. Annual Report.

EMPIRE METALS CORP, Aug/75. Assessment Report #090008 by A.E. Nevin.

GEOLOGICAL SURVEY OF CANADA, Paper 68-68, p. 79.

MINERAL INDUSTRY REPORT 1975, p. 165-166; 1976, p. 203-204.

MURPHY, D.C. AND PIERCEY, S.J., 1999. Geological map of parts of Finlayson Lake (105G/7, 8 and parts 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.

NORTHLAKE MINES LTD, Sept/67. Assessment Report #091157 by R.G. Gifford.

NORTHLAKE MINES LTD, Jan/67. Assessment Report #060251 by P.H. Sevensma.

NORTHLAKE MINES LTD, Jan/67. Assessment Report #019114 by A.J. MacDonald.

ST. JOSEPH EXPLORATION LTD, 1976. Assessment Report *#090134 by D. Hendry and D.C. Miller.

YUKON EXPLORATION & GEOLOGY 1995, p. 9, p16.

YUKON MINING AND EXPLORATION OVERVIEW 1988, p. 25-26

Work History

Date	Work Type	Comment
12/31/1996	Airborne Geophysics	Also magnetic survey.
12/31/1995	Geology	
12/31/1995	Other	
12/31/1994	Geochemistry	Also silt sampling.
12/31/1994	Geology	
12/31/1994	Airborne Geophysics	Also magnetic survey. Regional survey by Cominco.
12/31/1988	Geology	
12/31/1988	Geochemistry	
12/31/1988	Other	
12/31/1976	Geology	
12/31/1976	Geochemistry	
12/31/1975	Geology	
12/31/1975	Geochemistry	
12/31/1967	Drilling	Four holes, 324.31 m.
12/31/1966	Geochemistry	
12/31/1966	Airborne Geophysics	Also EM survey.
12/31/1966	Other	
12/13/1995	Geochemistry	

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
093550	1996	Report on a Helicopter-Borne Electromagnetic and Magnetic Survey	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics		
093717	1996	1996 Assessment Report Tin and Chub Properties Linecutting, Geological Mapping/Prospecting, Geochemistry, Airborne and Ground Geophysical Surveys	Silt - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Regional Bedrock Mapping - Geology, EM - Ground Geophysics, Magnetics - Ground Geophysics, Prospecting - Other		
093391	1995	1995 Assessment Report Tin property Soil Geochemistry and Geological Mapping	Soil - Geochemistry, Detailed Bedrock Mapping - Geology		
093331	1994	1994 Assessment Report Tin Property Soil Geochemistry and Geological Mapping	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other		
090134	1976	Geochemical and Geological Report on the Pelly Claims	Soil - Geochemistry, Bedrock Mapping - Geology		
090008	1974	Report on the Pelly Lead Zinc Property, Watson Lake Mining Division, Yukon Territory	Cursory Property Visit - Other, Research/Summarize - Pre-existing Data		
060148	1972	Geology and Geochemistry, Hoo Occurrence	Silt - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology		
060586	1967	Northlake Mines Limited Summary Report and Recommendations September 30, 1967	Winter Road - Development, Surface, Diamond - Drilling, Silt - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, EM - Ground Geophysics, Line Cutting - Other, Mechanical - Trenching	4	324.30
060250	1966	Geological, Geochemical, Geophysical & Physical Work Report on the Hoo, EL, Gee Leo, P.S., P.G., C.W. and Z Claim Groups	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Diamond - Drilling, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, EM - Ground Geophysics, Backhoe - Trenching	4	486.46

060251	1966	Northlake Mines Limited El Group of Claims Report on Airborne Geophysical Survey	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics		
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Related References

Number	Title	Page(s)	Reference Type	Document Type
ARMC008064	Pelly project 1977 summary - Geochemical map - Figure 15b		Property File Collection	Geochemical Map
ARMC008065	Geophysical survey map - Upper Hoole River		Property File Collection	Geophysical Map
ARMC016586	Geochemical map - 105G/6 - Upper Hoole River		Property File Collection	Geochemical Map
ARMC016576	Geology map - 105G/6 - Upper Hoole River		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC014059	Exploration program 1966 and 1967 - Northlake Mines Limited, Watson Lake, M.D., Yukon		Property File Collection	Report