Occurrence Details

Occurrence Number: 105G 089
Occurrence Name: Hennel
Occurrence Type: Hard-rock
Status: Anomaly
Date printed: 12/16/2025 7:47:52 AM

General Information

Secondary Commodities: copper, gold, lead, zinc
Deposit Type(s): Unknown
Location(s): 61°36'8" N - -130°23'36" W
NTS Mapsheet(s): 105G09
Location Comments: .5 Kilometres
Hand Samples Available: No
Last Reviewed:

Capsule

Work History

Staked as Chance & Asbestos cl (YA543) in Aug/76 by N. Hennel.
In Jan/95 Westmin Resources Ltd (60%) and Atna Resources Ltd (40%) formed the Wolverine Joint Venture (JV) to explore their combined claim holdings in the Wolverine Lake area. In Oct/95 the Wolverine (JV) restaked the occurrence within Rope cl 1-339 (YB69086). Later in the month the joint venture staked Rope cl 401-510 (YB69414) and in Nov/95 staked Rope cl 547-553 (YB70840). In 1996 the joint venture flew an airborne geophysical survey over the claims and carried out regional scale geological mapping, and soil and silt sampling surveys. In 1997 the joint venture carried out further soil sampling and geological mapping, the results of which were used to justify 2 diamond drill holes (325.5 m).
In Mar/98 Westmin Resources was acquired by Boliden Ltd. In Apr/99 Expatriate Resources Ltd purchased Westmin¿s interest in the Wolverine Joint Venture, from Boliden, resulting in Expatriate becoming 60% owner (and operator) of the joint venture (including the Rope claims) (Atna owns the remaining 40%).
In June and July/99 the Wolverine Joint Venture carried out soil sampling, prospecting and geological mapping on the Rope, FYD and Foot claims located to the southeast . The following month, an exploration crew employed by the joint venture mapped and chip sampled three large limestone outcrops located near the occurrence.

Capsule Geology

The occurrence is located southeast of the southern end of Finlayson Lake. Little information exists regarding the original Chance and Asbestos claims and outcrop in the region is > 1%. While no assessment work was ever filed, it appears the claims were staked for base metal potential during regional exploration programs for massive sulphide deposits in the 1970's.
The occurrence area was recently re-mapped by Murphy et al. (2001 and 2002), of the Yukon Geological Survey, however subsequent re-interpretation by Murphy (pers. comm., 2003) has resulted in changes in stratigraphy that differs in interpretation from that published in Murphy¿s (et al., 2001) geology map. The area around the occurrence is underlain by Early Mississippian metavolcanic (primarily intermediate), carbonate and quartzite rocks which Murphy now believes are part of the Wolverine succession. To the east, across a regional strike slip fault, Murphy mapped the complete Wolverine Succession. In this area the Wolverine Succession is separated by a Pennsylvanian clastic overlap succession, from overlying massive basalt assigned to the Early Permian Campbell Range succession. The base of the Campbell Range succession is inferred to be a profound regional unconformity, developed after movement on the Jules Creek thrust. Geological mapping completed earlier by geologists employed by Westmin, generally correlates with that suggested by Murphy et al.
Westmin¿s airborne geophysical survey outlined numerous linear magnetic anomalies and conductive packages, most of which turned out to be localized serpentinite bodies. A zone containing several strong, closely spaced discrete EM anomalies, identified as `Zone A¿, was defined in the southwestern corner of the claim block. Reconnaissance soil sampling was followed up by small detailed surveys, centred over individual samples which returned anomalous values in any one of six (Au, Ag, Cu, Pb, Zn, and Ba) volcanic massive sulphide indicator elements. One such survey outlined a Au-Ag-Pb-Zn anomaly which corresponds to the `Zone A¿ EM anomaly. Regional stream sediment samples draining the Rope claims did not return any anomalous results.
Follow-up soil sampling over the 1996 soil anomaly identified a 800 m by 200 m area anomalous in (maximum values) Au (2 460 ppb), Ag < (5.0 ppm), Cu (393 ppm), Pb (162 ppm), Zn (6 460 ppm), and Ba (5430 ppm). The highest values within the anomaly were marked by a small (1 m2) kill zone underlain byferruginous orange soil.
Westmin drilled 2 diamond drill holes to test the soil anomaly. Hole RP97-01 intersected intercalated ¿graphitic argillites and siltstones with interbedded units of pale green re-sedimented mafic tuffs¿. Disseminated pyrite was the only sulphide identified in the core, commonly associated with quartz veining. Hole RP97-02 was drilled closer to the `kill zone¿ after the first hole failed to reveal any reason for the geochemical anomaly in the area. The highest Zn value (2 250 ppm) with accompanying elevated Cu (130 ppm) was obtained from units described as `typical¿ interbedded siltstone and carbonaceous argillite. The best gold values (590 ppb) were obtained from higher in the hole, from a zone described as faulted carbonaceous argillite with `preserved quartz veins¿ and `euhedral pyrite cubes ... peppered throughout...¿. Both holes appear to have intersected Wolverine Lake succession followed by Campbell Range succession. All core was split and assayed.
The 1999 soil sampling, geological mapping and prospecting program failed to identify any interesing or anomalous targets except for several outcrops of limestone located near the occurrence. A follow-up chip sampling program was carried out to test the limestone as a potential source material for neutralizing acids that might be generated during processing of massive sulphide ore from neighboring massive sulphide deposits. Ten samples, covering an aggregate thickness of approximately 38 m were collected and processed. Nine of ten samples contained greater than 15% calcium with very low values for most other elements. The nine samples also reported very high neutralization potential.

References

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 (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.

WESTMIN RESOURCES LIMITED, Apr/97. Assessment Report #093591 by A. D. Terry, A. Turner, G. Bradshaw, and T. L. Tucker

WESTMIN RESOURCES LIMITED, May/98. Assessment Report #093800 by A. D. Terry.

WOLVERINE JOINT VENTURE, Mar/2000. Assessment Report #094083 by W.A. Wengzynowski.

WOLVERINE JOINT VENTURE, Apr/2000. Assessment Report #094105 by W.A. Wengzynowski.

YUKON EXPLORATION & GEOLOGY 1995, p. 11, 1997, p. 15.

Work History

Date	Work Type	Comment
12/31/1999	Geochemistry	Sampled limestone outcrops.
12/31/1997	Drilling	Two holes, 325.5 m.
12/31/1997	Geology	Exploration program limited to anomalous areas identified in 1996.
12/31/1997	Geochemistry	Exploration program limited to anomalous areas identified in 1996.
12/31/1996	Geology	
12/31/1996	Geochemistry	
12/31/1996	Airborne Geophysics	Also magnetic survey. Flown over entire region.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
093591	1996	1996 Assessment Report Describing Geological, Geochemical, and Geophysical Surveys on the Wolverine Regional Project Claims (But 1-64, Foot 233-468, 473-516, 525-550, 561-586; FYD 1-94; Hang 1-17, 41-61, 81-102, 121-147, 161-186, 201-210, 253-257, 291-299, 301, 329-341, 367-382, 417-453; Nail 1-258; and Rope 1-553), Finlayson Lake Area, Yukon Territory	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Regional Bedrock Mapping - Geology		
093584	1996	Dighem V Survey for Westmin Resources Limited Wolverine Lake Project Yukon	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics		

Related References

Number	Title	Page(s)	Reference Type	Document Type
ARMC014033	Geology work sheet on map of McEvoy Creek		Property File Collection	Geoscience Map (General)
ARMC014035	Geology and geochemistry of south part of Sheldon area- McEvoy Creek		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC018651	Map of McEvoy Creek 105G/9 with field notations		Property File Collection	Geoscience Map (General)
ARMC018668	Field map of Pelly Mountain area		Property File Collection	Geoscience Map (General)
ARMC014031	Field sheet of McEvoy Creek with field notations		Property File Collection	Geoscience Map (General)
ARMC014034	Field sheet with notations on map of McEvoy Creek		Property File Collection	Geoscience Map (General)