Occurrence Details

Occurrence Number: 106D 061
Occurrence Name: Found
Occurrence Type: Hard-rock
Status: Showing
Date printed: 4/29/2025 4:24:46 PM

General Information

Secondary Commodities: copper, uranium
Deposit Type(s): Iron Oxide Breccias & Veins (Wernecke Breccias)
Location(s): 64°51'35" N - -134°4'32" W
NTS Mapsheet(s): 106D16
Location Comments: .5 Kilometres
Hand Samples Available: No
Last Reviewed:

Capsule

Work History

Discovered in 1968 by Cyprus Exploration Corporation Ltd during a regional exploration program. First staked as Judy cl 1-2 (YA42299) in Aug/80 by Texaco Canada Resources Ltd following an airborne radiometric survey.

Capsule Geology

The occurrence area is located approximately 10 km northeast of the Bear River airstrip, in a cirque situated at the western headwaters of the eastern branch of an unnamed creek flowing northwards to the Bonnet Plume River. L.H. Green of the Geological Survey of Canada mapped the area at 1:250 000 scale in 1961 as part of a helicopter-supported party known as "Operation Ogilvie". D. Thorkelson (2000) a geologist with the Canada/Yukon Geoscience Office (now part of the Yukon Geological Survey), remapped topographic map sheet 106D/16 in the 1990's as part of a larger bulletin on the Wernecke Mountains. Gordey and Makepeace of the Geological Survey of Canada, released an updated geological compilation of the Yukon in 2003.
The region is underlain by a metamorphosed and altered sequence of Lower Proterozoic Wernecke Supergroup clastic and carbonate rocks (Fairchild Lake Group, Quartet Group and Gillespie Lake Group, from oldest to youngest) that are intruded by Early to Middle Proterozoic mafic sills and dykes, and cut by Middle Proterozoic Wernecke Breccia. According to Thorkelson (2000), Wernecke Breccia development is best modeled as a set of hydrothermal and/or phreatic breccias; brecciation being caused by explosive expansion of volatile-rich fluids. Hunt (2005) attributed Wernecke Breccia formation to periodic over-pressuring of dominantly basinal fluids, which lead to repeated brecciation of host strata and mineral precipitation.
The occurrence lies within a hematitic Wernecke Breccia body located at the head of a cirque. The breccia intrudes a wedge of Fairchild Lake Group metasedimentary rocks which are surrounded to the east, south and west by Gillespie Lake Group carbonaceous rocks. The Northern Cordillera Mineral Industry database, a predecessor to the Yukon Minfile database reported that chalcopyrite and minor uranium mineralization were found at the occurrence site but no references were given to verify the information. A geologist employed by Zelon Enterprises (contractor for Texaco Canada) recorded a scintillometer reading of 4 100 counts per second in an exposed outcrop area, a value in excess of 20 times background radioactivity. Follow-up prospecting failed to reveal any significant mineralization.

References

GEOLOGICAL SURVEY OF CANADA, Paper 69-55, p. 8.

GORDEY, S.P. AND MAKEPEACE, A.J., 2003. Yukon Digital Geology, version 2.0, S.P. Gordey and A.J. Makepeace (comp); Geological Survey of Canada, Open File 1749 and Yukon Geological Survey, Open File 2003-9 (D).

GREEN, L.H. 1972. Geology of Nash Creek, Larsen Creek and Dawson Map-Areas, Yukon Territory. Geological Survey of Canada, Memoir 364.

HUNT, J., 2005. The geology and genesis of iron oxide-copper-gold mineralization associated with Wernecke Breccia, Yukon Canada, PhD thesis, James Cook University, Australia, 2 volumes, 120 p.

THORKELSON, D.J., AND WALLACE, C.A., 1993. Development of Wernecke Breccia in Slats Creek (106D/16) map area, Wernecke Mountains, Yukon. In: Yukon Exploration and Geology 1992, Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 77-87.

THORKELSON, D.J. AND WALLACE, C.A., 1998. Geological Map of Slats Creek map area, Wernecke Mountains, Yukon (106D/16). Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Geoscience Map 1998-9, 1:50,000 scale.

THORKELSON, D.J. AND WALLACE, C.A., 2000. Geology and mineral occurrences of the Slats Creek, Fairchild Lake and "Dolores Creek" areas, Wernecke Mountains, Yukon (106D/16, 106C/13, 106C/14). Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Bulletin 10, 73 p.

YUKON EXPLORATION AND GEOLOGY 1981, p. 195.

ZELON ENTERPRISES LTD, Jul/81. Assessment Report #090868 by J.H. Hajek.

Work History

Date	Work Type	Comment
12/31/1980	Airborne Geophysics	
12/13/1980	Ground Geophysics	Follow-up of airborne anomalies.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
095646	2007	2007 Geological, Geochemical and Geophysical Report on the Werneckes Project	Diamond - Drilling, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Regional Bedrock Mapping - Geology, Magnetics - Ground Geophysics, Scintillometer - Ground Geophysics, Prospecting - Other, Backhoe - Trenching, Hand - Trenching, Handblast - Trenching	28	6537.96
094956	2006	2006 Geological, Geochemical and Geophysical Report on the Werneckes Project	Reverse Circulation - Airborne Geophysics, Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Scintillometer - Ground Geophysics, Prospecting - Other		
090868	1980	Exploration Report-Year 1980 on the Bear River Properties	Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Regional Bedrock Mapping - Geology, Gamma-ray Spectrometry - Ground Geophysics, Prospecting - Other, Hand - Trenching, Handblast - Trenching		
090144	1976	Snakehead Property, Wernecke Mountains, Geology and Geochemistry	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Scintillometer - Ground Geophysics, Heavy Mineral Concentrate - Lab Work/Physical Studies, Prospecting - Other		

Related References

Number	Title	Page(s)	Reference Type	Document Type
ARMC007821	Map - Reef Project		Property File Collection	Geochemical Map