



Occurrence Details

Occurrence Number: 106D 089

Occurrence Name: Zelon

Occurrence Type: Hard-rock

Status: Showing

Date printed: 4/29/2025 4:36:11 PM

General Information

Secondary Commodities: cobalt, copper, uranium

Deposit Type(s): Vein Au-Quartz

Location(s): 64°54'57" N - -134°3'54" W

NTS Mapsheet(s): 106D16

Location Comments: .5 Kilometres

Hand Samples Available: No

Last Reviewed:

Capsule

Work History

Staked as Sam cl 1-8 (YA63418) in Jul/81 by Texaco Canada Resources Ltd which carried out a short prospecting and rock sampling program in 1981 and 82.

In Jan/2006 Fronteer (80%) and Rimfire Minerals Corporation (20%) signed an agreement with Newmont Exploration Canada Ltd and NVI Mining Ltd (which bought Westmin's assets) to purchase all claims and exploration data relating to 700 mineral claims owned by the Fairchild Joint Venture in the Wernecke Mountains, Yukon. Fronteer Development was appointed operator of the project.

Restaked within BP claims 1 -112 (YC47730) in Apr/2006 by Fronteer Development Ltd (on behalf of their partnership with Rimfire) which carried out prospecting and rock and soil sampling later in the year.

Capsule Geology

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. To the east, Wernecke Supergroup rocks are unconformably overlain by Middle Proterozoic Pinguicula Group rocks. 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 is located on the eastern side of an unnamed creek which flows north into 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. Thorkelson worked closely with geological mapping geologists employed by the former Fairchild Joint Venture group. Gordey and Makepeace of the Geological Survey of Canada, released an updated geological compilation of the Yukon in 2003.

The occurrence consists of chalcopyrite and malachite with minor cobaltite and brannerite fill fractures and shear zones in limy phyllite of the Lower Proterozoic Fairchild Lake Group. Texaco Canada reported that the best mineralization occurs in an irregular east-trending structure that can be traced for approximately 100 m along strike and is visually estimated to grade 1 to 2% copper over 2 m. One grab sample of quartz-carbonate vein material containing minor chalcopyrite and erythrite assayed 0.6 g/t silver and 0.08% copper. A second grab sample of quartz-carbonate vein material containing pyrite and chalcopyrite returned 1.0 g/t silver, 0.08% copper and 2 ppm uranium. Neither sample returned gold. Fronteer Development's 2006 exploration program was preliminary in nature. Prospecting uncovered copper mineralization on the western boundary of the BP claims associated with a Wernecke Breccia body hosted in weakly chloritized shale and phyllite. Soil sampling outlined a gold-silver anomaly through the central part of the claim block.

References

FRONTEER DEVELOPMENT GROUP INC AND RIMFIRE MINERALS CORPORATION, Feb/08. Assessment report #094956 by R.C. Heffernan, H. Awmack and E. Conaghan.

FRONTEER DEVELOPMENT GROUP INC. News Release, 19 May/2006; 19 Jul/2006; Project Summary Dec/2007.

FRONTEER DEVELOPMENT GROUP INC. Nov/2008. Web Site: www.fronteergroup.com.

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, p. 139.

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.

NEWMONT EXPLORATION LTD, Dec/94. Assessment Report #093233 by H.M. Klatt and M.A. Stammers.

TEXACO CANADA RESOURCES LTD, Jun/83. Assessment #091456 by P.G. Lhotka and R.A. Olson.

THORKELSON, D.J., AND WALLACE, C.A., 1993. Development of Wernecke Breccia in Slat 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 Slat 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 Slat 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.

Work History		
Date	Work Type	Comment
12/31/2006	Geochemistry	
12/31/2006	Geochemistry	
12/31/2006	Other	
12/31/1982	Geochemistry	
12/31/1982	Other	
12/31/1981	Geochemistry	
12/31/1981	Other	

Assessment Reports that overlap occurrence					
Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
095646	2007	2007 Geological, Geochemical and Geophysical Report on the Wernekes 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 Wernekes Project	Reverse Circulation - Airborne Geophysics, Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Scintillometer - Ground Geophysics, Prospecting - Other		
091456	1983	Exploration, 1982, Gold, Silver and Uranium Deposits, Glacier Lake Region	Rock - Geochemistry, Silt - Geochemistry, Detailed Bedrock Mapping - Geology, EM - Ground Geophysics, Scintillometer - Ground Geophysics, Petrographic - Lab Work/Physical Studies, Prospecting - Other, Hand - Trenching		
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		

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