Occurrence Details

Occurrence Number: 106D 087
Occurrence Name: Snowstar
Occurrence Type: Hard-rock
Status: Showing
Date printed: 4/29/2025 4:40:51 PM

General Information

Secondary Commodities: cobalt, copper, gold, uranium
Aliases: Vulture
Deposit Type(s): Iron Oxide Breccias & Veins (Wernecke Breccias)
Location(s): 64°54'15" N - -134°0'36" W
NTS Mapsheet(s): 106D16
Location Comments: .5 Kilometres
Hand Samples Available: No
Last Reviewed:

Capsule

Work History

Staked as Snowstar cl 1-8 (YA42082) in Aug/80 following an airborne radiometric survey by Texaco Canada Resources Ltd, which performed geological mapping and sampling in 1981. In Sept/93 Newmont Exploration Ltd conducted an airborne geophysical survey over the area using propriety company equipment. In Oct/93 Pamicom Developments Ltd restaked the prospect as Vulture cl 1-42 (YB22956). In Jan/94, Pamicon transferred 100% interest in the claims to Westmin Resources Ltd, which then formed the Fairchild Joint Venture with Newmont. In the summer of 1994, the Fairchild Joint Venture contracted Pamicon and Equity Engineering Ltd to carry out preliminary geological mapping, rock, soil and stream sediment sampling.
In Mar/95 the joint venture added Vulture cl 43-62 (YB43979). In the summer of 1995 Pamicon and Equity carried out detailed mapping and rock sampling over the Vulture Zone and other smaller zones located on the claim block. A small number of soil samples were also collected.

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 at the eastern headwaters 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 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 minor cobaltite and uranium mineralization associated with Wernecke Breccia bodies and shear zones cutting Lower Proterozoic Fairchild Lake Group limy phyllite. A grab sample collected from a radioactive boulder (JH121) assayed 0.01% uranium oxide (U_3O_8). Texaco Canada reported a high level granite intrusion nearby. Geological mapping completed by Thorkelson shows that the Vulture claims are underlain by a metamorphosed, folded and faulted sedimentary rocks of the Fairchild Lake Group which are cut by hematitic Middle Proterozoic Wernecke Breccia and minor intrusive bodies assigned to the Early Proterozoic Bonnet Plume Intrusions. Minor chalcopyrite occurs in breccia, altered siltstone, in quartz veins cutting siltstone, and along bedding-controlled hematite, magnetite and pyrite horizons. The best results were obtained in the southeastern corner of the original Vulture cl 1-42 claim block, in an area the companies referred to as the Vulture zone. Grab samples collected in 1994 from massive specular hematite and magnetite in quartz veins or altered siltstone and hematite breccia returned values up to 595 ppb gold along with associated highly anomalous metal values up to a maximum of 1.27% copper, 848 ppm cobalt, 209 ppm nickel and 190 ppm lanthanum. Stream sediment samples collected from creeks draining the Vulture zone returned gold values of 20 ppb gold and copper values of 165 ppm and 324 ppm.
Follow-up geological mapping and sampling in 1995 found that the Vulture zone measured 1 200m long by up to 200 m wide and was open to the northwest and southeast. Mineralization occurs in focused zones, with weaker alteration and mineralization spreading out along layers. Overall the mineralization in the zone is quite low, probably averaging 0.25 to 0.5% chalcopyrite in some of the better areas and there are only small areas with ore grade copper values. Combined with the apparent lack of gold concentration with strong copper mineralization, the joint venture elected not to explore the claims further. A grab sample collected northeast of the original showing consisting of altered sedimentary rock containing brannerite returned low levels of gold, copper and cobalt.

References

EQUITY ENGINEERING LTD, Feb/95. Assessment Report #093263 by K.A. Owerko.

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.

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.

WESTMIN RESOURCES LTD, Dec/95. Assessment Report #093369 by M.I. Jones.

YUKON EXPLORATION AND GEOLOGY 1981, p. 195; 1994, p. 6, 10; 1995, p. 12, 16.

ZELON ENTERPRIZES LTD, Sep/81. Assessment Report # 090868 by J.H. Hajek.

Work History

Date	Work Type	Comment
12/31/1995	Geochemistry	
12/31/1995	Geology	
12/31/1995	Geochemistry	
12/31/1994	Geochemistry	
12/31/1994	Geology	
12/31/1994	Geochemistry	
12/31/1994	Geochemistry	
12/31/1993	Airborne Geophysics	Also EM and radiometric surveys. Results of airborne survey flown by Newmont led to staking of claims.
12/31/1981	Geochemistry	
12/31/1981	Geology	
12/31/1981	Geochemistry	
12/31/1981	Other	
12/13/1981	Ground Geophysics	
12/13/1980	Airborne Geophysics	

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		
093369	1995	1995 Geological and Geochemical Assessment Report on the Vulture 1-62 Claims	Rock - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology		
093263	1994	1994 Geological and Geochemical Assessment Report on the Vulture 1-42 Claims	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, 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		

Related References

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