



Occurrence Details

Occurrence Number: 106D 052

Occurrence Name: Ursus

Occurrence Type: Hard-rock

Status: Prospect

Date printed: 4/29/2025 1:30:11 PM

General Information

Secondary Commodities: barium, cobalt, copper, gold, uranium

Aliases: Ford

Deposit Type(s): Iron Oxide Breccias & Veins (Wernecke Breccias)

Location(s): 64°54'24" N - -134°16'2" W

NTS Mapsheet(s): 106D16

Location Comments: .5 Kilometres

Hand Samples Available: Yes

Last Reviewed:

Capsule

Work History

Initial staking in this area was CF cl 1-8 (Y32327) about 2.4 km to the east in Mar/69 by C. Ford on an occurrence located by Cyprus Exploration Corporation Ltd during regional exploration in 1968.

The uranium occurrence was first staked as Ursus cl 1-8 (YA6875), cl 13- 20 (YA6883), cl 9-12 (YA6997) and 21-24 (YA7001) in Sep and Oct/71 by Mountaineer Mines Ltd. The claims were optioned to Pan Ocean Oil Ltd, which explored with geological mapping, geochemical and radiometric surveys in 1977 and 1978 and geological mapping, geochemical and geophysical surveys and hand trenching in 1980. In 1981 Mountaineer changed its name to Canadian Mineral Corporation and Pan Ocean's interest was transferred to Aberford Resources Ltd.

Restaked as Ursus 1-14 cl (YB28574) in Jul and Sep/92 by a joint venture consisting of Pamicon Developments Ltd, Equity Engineering Ltd and Westmin Resources Ltd, which also staked Cleveland 1-6 cl (YB28580) 2.5 km to the southwest in Jul/92. The joint venture performed mapping and sampling in 1992 and 1993. Based on the results of the 1992 exploration program, the joint venture staked TVA cl 1- 4 (YB29130 - Minfile# 106D 062) directly north of the Ursus claims. In Aug/93 the joint venture added TVA cl 5-14 (YB22511) to its holdings. In Sept/93 Newmont Exploration Ltd conducted an airborne geophysical survey over the area using proprietary company equipment. The following month the joint venture added Ursus cl 15-18 (YB42305) and TVA cl 15-22 (YB42309) to its holdings.

In Jan/94 Pamicon and Equity transferred 100% interest in the Ursus, TVA and Cleveland claim groups to Westmin Resources, which then formed the Fairchild Joint Venture with Newmont. In the summer of 1994 the Fairchild Joint Venture contracted Pamicon and Equity to carry out a program consisting of geological mapping, prospecting and soil sampling on the TVA and Ursus claim groups.

In Mar/98 Westmin was purchased by Boliden Ltd which changed its name to Boliden Westmin Ltd. In Jul/2004 Breakwater Resources Ltd purchased all outstanding shares of Boliden Westmin (Canada) Ltd from parent company Boliden Ltd. Breakwater transferred control of all surviving claims located in the Wernecke Mountains, Yukon to its wholly owned subsidiary NVI Mining Ltd (including the TVA and Ursus claims).

In Jan/2006 Fronteer Development Group Incorporated (80%) and Rimfire Minerals Corporation (20%) signed an agreement with Newmont Exploration Canada Ltd and NVI Mining Ltd to purchase all claims and exploration data relating to 700 mineral claims owned by the Joint Venture in the Wernecke Mountains, Yukon. Fronteer Development was appointed operator of the project. In the summer of 2006 Fronteer Development carried out an airborne gravity survey over their entire claim holdings.

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 overpressuring of dominantly basinal fluids, which lead to repeated brecciation of host strata and mineral precipitation.

The occurrence is located in the Wernecke Mountains approximately 10 km northeast of the Bear River and approximately 165 kilometers northeast of the town of Mayo. The majority of the occurrence area is underlain by Lower Proterozoic Fairchild Lake Group sedimentary units. Along the southern boundary of the occurrence area the sediments are in fault contact with Lower Proterozoic Gillespie Lake Group dolomites. A Middle Proterozoic Wernecke breccia intrudes the Gillespie Lake Group along the fault contact. The Wernecke Breccias are known to host copper, gold and uranium mineralization. The mineralization occurs within the breccias and in veins and alteration zones associated with the breccias.

The Ursus occurrence consists of copper- rich carbonate altered zones surrounding a breccia body located in an area known as the south breccia. Grab samples collected in 1992 returned up to 4.39% copper and 155 ppb gold. Thorkelson and Wallace (1993) described the occurrence, as consisting of a gradational transition from unaltered dark argillite to purplish brown metasomatized argillite with red bands and hematitic fractures through a zone of crackle breccia to the main breccia zone where specular hematite is abundant in both clasts and matrix. Pan Ocean staked the Ursus claims to cover uranium and copper mineralization in Fairchild Lake Group siltstone and interbedded dolomite. The company identified two areas, the East and Central showings where both copper and uranium mineralization was discovered. The copper occurs in fractures in a siltstone horizon over an area of 366 by 30 m. The uranium occurs as disseminated brannerite within both matrix and clasts of the breccia in association with crystalline chalcopyrite, barite, siderite, pyrite and hematite-magnetite. The best chip sample was 0.01% uranium oxide (U3O8), across 0.9 m of silicified siltstone (East showing), although a selected specimen of breccia float returned 0.21% uranium oxide (Central showing). Samples taken from trenches returned up to 120 ppm Mo, 1 300 ppm Co, 2 500 ppm U and 5 000 ppm Ba with greater than 1% Cu.

Mapping by Pamicon and others found that the Ursus occurrence is located along a regional northwest-southeast trending fault or shear zone that is host to Wernecke Breccia zones on the Cleveland, Slat, Ursus/TVA and other claim groups. This zone is inferred to be an early regional transpressional thrust fault that was intruded by volatile rich diorite dykes and Wernecke breccia. The regional structure has been broken up by subsequent extensional block faulting along Ursus and the Mica Creeks.

Work on the Ursus claims in 1992 concentrated on two breccia bodies, northern and southern, located on Ursus claims. In 1993 one field day was spent on examining the southern breccia body. Copper-gold mineralization was found along a fault contact between Gillespie dolomites and homolithic breccia. The majority of work in 1994 was carried out on the TVA claims. Work on the Ursus claims was restricted to the northernmost most claims (Ursus 15-18) which were staked the previous October. Grid soil sampling outlined several spot anomalies.

The CF claims were staked on minor chalcopyrite veinlets within and peripheral to a Wernecke Breccia body cutting Quartet Group argillite.

The Cleveland claims are underlain by Gillespie Lake Group dolomite and shale in contact with Quartet Group shale and quartzite. A 100 m wide hematite heterolithic breccia body occupies the contact between the Quartet and Gillespie Lake groups. The breccia terminates on the eastern end and contains up to 20% specular hematite and up to 3% magnetite.

References

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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).

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.

MINERAL INDUSTRY REPORT 1977, p. 44; 1978, p. 16.

MOUNTAINEER MINES LTD and PAN OCEAN OIL LTD, Feb/78. Assessment Report #090291 by D.A. Yeager and C.K. Ikona.

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

WESTMIN RESOURCES LTD, Jun/93. Assessment Report #093118 by D.A. Caulfield.

WESTMIN RESOURCES LTD, Jun/93. Assessment Report #093124 by M.A. Stammers.

WESTMIN RESOURCES LTD, Feb/94. Assessment Report #093170 by M.A. Stammers.

YUKON EXPLORATION AND GEOLOGY 1981, p. 197.

Work History

Date	Work Type	Comment
12/31/2006	Airborne Geophysics	Regional gravity survey.
12/31/1994	Geology	
12/31/1994	Geochemistry	
12/31/1994	Other	
12/31/1993	Geology	
12/31/1993	Ground Geophysics	Also magnetic survey.
12/31/1992	Geochemistry	Also soil sampling.
12/31/1992	Geology	
12/31/1980	Geochemistry	Also soil sampling.
12/31/1980	Geology	
12/31/1980	Ground Geophysics	Orientation survey.
12/31/1980	Other	
12/31/1980	Trenching	
12/31/1977	Geology	
12/31/1977	Geochemistry	Also rock sampling.
12/31/1977	Geochemistry	Also water sampling.
12/31/1977	Other	
12/13/1978	Geochemistry	Also soil, silt and water sampling.
12/13/1978	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	Diamond - Drilling, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Regional Bedrock Mapping - Geology, Magnetic - Ground Geophysics	28	6537.06

090974	2007	Werneckes Project	Bedrock Mapping - Geology, Magnetics - Ground Geophysics, Scintillometer - Ground Geophysics, Prospecting - Other, Backhoe - Trenching, Hand - Trenching, Handblast - Trenching	20	090974
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		
093170	1993	Geological, Geochemical, and Geophysical Report on the Mica-Hall, Ursus, TVA & Reid Claims	Rock - Geochemistry, Bedrock Mapping - Geology, IP - Ground Geophysics, Magnetics - Ground Geophysics, Prospecting - Other		
093118	1992	1992 Geochemical Report on the Ursus 1-14 Claims	Rock - 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		
090590	1979	Geological and Geochemical Report on the Ursus 1-24 Mineral Claims	Rock - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other		
090425	1978	Geological and Geochemical Report on the Ursus 1-24 Mineral Claims	Rock - Geochemistry, Regional Bedrock Mapping - Geology, Prospecting - Other		
090291	1977	Geological Report on the Ursus 1-24 Mineral Claims	Rock - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other		

Related References

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