Occurrence Details

Occurrence Number: 116B 171
Occurrence Name: Tom Bell
Occurrence Type: Hard-rock
Status: Prospect
Date printed: 6/14/2025 4:56:59 PM

General Information

Secondary Commodities: molybdenum, nickel, zinc
Deposit Type(s): Sediment hosted Shale-Hosted Ni-Zn-Mo-PGE (Nick)
Location(s): 64°43'45" N - -138°13'10" W
NTS Mapsheet(s): 116B09
Location Comments: .5 Kilometres
Hand Samples Available: No
Last Reviewed:

Capsule

Work History

First staked as a large block of Rein claims in 1976 by the Blackstone Project (Union Miniere Exploration and Mining Corporation Ltd (UMEX) and Shell Canada Resources Ltd) which explored with soil sampling and mapping in 1976, 1977 and 1978. In 1979 the claims were optioned to Milchem Inc which explored the adjacent Cliff and Ridge barite showings (Minfile Occurrence #116B 128).
The Rein claims were transferred to Major General Resources Ltd in May/90. In 1994 Major General optioned the Rein claims to Pendisle Resources Inc (a precursor company to Blackstone Resources Ltd). As part of the agreement Pendisle acquired Major General¿s extensive database and several thousand archived silt and soil samples collected in the late 1970's but never analyzed. Pendisle contracted Equity Engineering Ltd to carry out a small exploration program on the remaining claims. Upon completion of their work program Pendisle allowed the claims to lapse except for two groups of claims (Rein 9, 11, 12, 27, 29 and 35-40, 49, 50, 60, 62) which covered the best mineral occurrences.
In early 1995 Blackstone Resources Ltd selected 2 195 soil and 62 rock pulps of the archived samples for 32 element ICP analysis. In May/95, based on the results from these samples, Blackstone surrounded the remaining 16 Rein claims with Rein cl 100-277 (YB44359). In 1996 Blackstone carried out an extensive geological mapping, prospecting and soil sampling program on the claim block. In early 1997 Blackstone optioned 60% of the property to Glenhaven Resources Ltd. The company funded a 12-hole (587 m) diamond drill program on the TB and DM showings (this occurrence) and the MM zone, 5 km east-southeast (Minfile Occurrence #116B 170). Blackstone staked RC cl 1-168 (YB98995) in Oct/97 to surround the Rein claims on three sides and at the same time L. Barry staked GD cl 1-51 (YC00309) and DH cl 1-52 (YB98943) contiguously with the northwest corner of the Blackstone claim block.
In 1998 Blackstone carried out geological mapping, prospecting, geochemical soil sampling and drilled 14 holes (832.2 m) on the MM zone and westerly extension of the same grid which covers the Ridge and Cliff barite showings.
Blackstone Resources changed its name to Blackstone Ventures Inc in Apr/2001.

Capsule Geology

The occurrence lies within the Taiga Basin. The basin consists of Ordovician to Silurian Road River Group dolomite and black calcareous shales overlaid by Devonian to Mississippian Earn Group siliceous shales, chert and conglomerates with minor carbonate units near the lower contact. It lies within an off-self sequence of the Mackenzie Platform, underlain and overlain by shallow water carbonates and forming a sub-basin north of the main Selwyn basin. To the south, the Taiga Basin is bounded by the northerly-directed Dawson Thrust Fault. Cambrian to Devonian mafic volcanics are spatially related to the Dawson Fault.
The oldest rocks exposed on the Rein claims are carbonaceous and calcareous, graptolitic shales of the Road River Group. They are conformably overlain by an interbedded unit of argillite, calcareous shale and siltstone, limestone and chert-siliceous shale of the Lower Earn group. Limestone and baritic limestone balls up to 1.0 m in diameter form a distinctive marker that lies at the top of this sequence. A Permian aged chert and chert pebble conglomerate unit caps the entire succession. Thrust faults related to the Dawson Fault have thrust limy shale and phyllitic carbonate of the Ordovician to Silurian Road River Group over the younger Earn Group sequence.
The area was first explored for shale hosted lead-zinc-barite mineralization. UMEX staked the original Rein claims to cover extensive hydrozincite coatings on outcrops and talus of Lower Earn Group argillite, calcareous shale and siltstone, limestone and chert and to a lesser extent Road River Group shale. The rocks assayed 0.1-0.4% Zn but the source of the secondary zinc mineralization was never satisfactorily explained.
Minor lead-copper-zinc vein mineralization was later found peripheral to dioritic sills on neighboring claims and minor galena, sphalerite and barite vein mineralization was reported on the Rein claims.
Milchem's drill program was directed towards evaluating the barite beds (Minfile Occurrence #116B 128) as a potential source for drilling mud.
Pendisle's sampling of the barite beds returned values up to 54.2% barium. Rock sampling and soil sampling returned anomalous values for Zn and Ag. One rock sample, taken from pyritic black shale, assayed 2.06% Ni, 454 ppm Mo, 35 ppb Au, 120 ppb Pt and 58 ppb and led the company to change its exploration focus to Ni-Zn-PGE stratiform mineralization similar to that found at the Nick deposit (Minfile Occurrence #106D 092).
Blackstone re-analyzed the UMEX pulps in 1995. The analysis produced a number of new targets which led the company to stake 178 additional Rein claims. Geological mapping, prospecting and soil sampling in 1996 lead to the discovery of the TB (Tom Bell) showing, the DM showing (located 500m to the south) and the MM zone, (located 5 km to the east). These showings consist of a thin (6 to 50 cm) pyrite-vaesite (nickel disulphide) bed which has returned assays as high as 3.58% Ni over 45 cm. The MM zone contains two separate mineralized horizons and has produced the greatest widths. Nickel -molybdenum-zinc soil anomalies were delineated over a ten kilometer strike length.
These showings are situated on the southern edge of the Taiga Basin. The stratiform vaesite occurs in a shale horizon located at the contact between Middle Devonian Lower Earn Group black chert and a distinctive concretionary unit of Lower Devonian age which forms the top of the Road River Formation. The concretionary unit consists of limestone and baritic limestone balls up to 1.0 m in diameter in a matrix of black, siliceous mudstone. In the area of the MM zone, the unit directly overlying the limestone ball unit is described as being a carbonaceous, fossiliferous, baritic and phosphatic black shale. Deposits of this type are believed to form from low temperature organic-rich fluids in Red Sea-type brine pools in a rift environment. Vaesite deposits of this type have been mined in southern China. Hulbert et al. (1992) proposed a metallogenic model in which nutrient-rich hydrothermal fluids became enriched in base and precious metals scavenged from underlying organic-rich Silurian and Devonian strata, where the metals were adsorbed on decaying organic material.
Twelve short reconnaissance BTW diamond drill holes tested the 3 target areas in 1997, resulting in significant intersections over previously unreported widths. The best intersection was returned by Hole REN97-08, which tested a portion of the MM zone. It intersected 25.5 metres of 0.51% Ni with 0.41% Zn, including a 5.3 meter intersection grading 1.42% Ni and 0.70% Zn. The MM zone drilling showed that the nickel mineralization occurs both above and below a thick (>10m?) brecciated and stockwork veined barite bed. The upper of the mineralized horizons contains higher concentrations of nickel, is fossil-rich and contains baritic limestone balls. Two of the drill holes tested the TB showing and one drill hole tested the DM showing. None of the drill holes intersected significant Ni values at depth, but did return intersections slightly anomalous to anomalous for Au, Pt, Pd, P and Zn.
Nine of the 1998 drill holes were collared around the MM zone. These holes were designed to test the down dip extent of mineralization encountered in drill holes REN97-07 and 08. Although the drilling traced the host stratigraphy along 450 m of strike length none of the holes intersected nickel mineralization of the same tenor as encountered in 1997, the best intersection was in hole REN98-13 which returned 1 265 ppm Ni and 830 ppm Zn. This led Blackstone to suggest that the mineralization encountered in 1997 is appearently associated with a low temperature submarine vent that is small and localized in extent.
The remaining five holes tested the Cliff and Ridge Barite deposits (Minfile Occurrence #116B 128). Three holes drilled at and around the Cliff showing returned up to 2 490 ppm Ni, 1 640

ppm Zn, 210 Mo and 324 ppm As over 1.41 m. Drilling at the Ridge showing found that the barite occurrence pinches out at depth.

References

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YUKON GEOLOGY AND EXPLORATION 1979-80, p. 292.

YUKON EXPLORATION AND GEOLOGY 1996, p. 22, 31; 1997, p. 21-22, 37-38; 1998, p. 23-24, 28, 30.

Work History

Date	Work Type	Comment
12/31/1998	Drilling	Number of holes drilled: 14 Amount of work done: 832.2 METRES Drilled on MM grid and Ridge and Cliff Barite deposits.
12/31/1997	Drilling	Number of holes drilled: 12 Amount of work done: 587 METRES
12/31/1996	Geology	
12/31/1996	Geochemistry	
12/31/1996	Other	
12/31/1995	Other	Re-assayed archived silt and soil samples.
12/31/1979	Geochemistry	
12/31/1979	Other	
12/31/1978	Geology	
12/31/1978	Geochemistry	
12/31/1977	Geology	
12/31/1977	Geochemistry	
12/31/1976	Geology	
12/31/1976	Geochemistry	

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
095596	2007	Assessment Report Describing Prospecting, Mapping, Geochemical Sampling and Diamond Drilling at the DEER Property	Diamond - Drilling, Drill Core - Geochemistry, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Prospecting - Other	2	40.54
093986	1998	1998 Geological, Geochemical and Diamond Drilling Report on the Rein Property	Diamond - Drilling, Rock - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology	14	832.20
093750	1997	1997 Drilling Program on the Rein Property	Diamond - Drilling, Rock - Geochemistry	12	587

093594	1996	1996 Exporation Program on the Rein Property	Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Prospecting - Other		
093295	1994	1994 Geological Report on the REIN Claims	Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other		
090232	1977	Geochemical Soil Survey on the REIN 51-60 Claims	Soil - Geochemistry, Line Cutting - Other		
090264	1977	Geochemical Soil and Electromagnetic Surveys on the Rein 7-50 Claims	Soil - Geochemistry, EM - Ground Geophysics, Line Cutting - Other		
090195	1976	Geochemical Soil Survey on the REIN 7-50 Claims	Soil - Geochemistry, Line Cutting - Other		

Related References

Number	Title	Page(s)	Reference Type	Document Type
ARMC016778	Geochemical map - 116B/9		Property File Collection	Geochemical Map