Occurrence Details

Occurrence Number: 116I 085
Occurrence Name: Nickelrich
Occurrence Type: Hard-rock
Status: Prospect
Date printed: 4/28/2025 8:57:19 PM

General Information

Secondary Commodities: molybdenum, nickel, silver, zinc
Deposit Type(s): Sediment hosted Shale-Hosted Ni-Zn-Mo-PGE (Nick)
Location(s): 66°19'57.39" N - -136°14'53.14" W
NTS Mapsheet(s): 116I08
Location Comments: Occurrence location marks collar of drill hole RI07-08 which intersected thickess part of NIMo horizon.
Hand Samples Available: No
Last Reviewed:

Capsule

WORK HISTORY

Staked as Rich cl 1-48 (YC45138) in Nov/2006 by Strategic Metals Ltd. The company added Rich claims 49-186 (YC45308) in Feb/2007 and immediately optioned the Rich and six other claim groups, collectively called the NiMo (nickel-molybdenum) project to Southampton Ventures Inc, in return for cash, shares and certain work commitments.

During 2007 Southampton Ventures collected 3 rock, 15 chip, 625 soil and 66 silt samples and flew a helicopter-borne versatile time domain electromagnetic (VTEM) and magnetic geophysical survey over the claims. Later in the summer the company drilled 25 diamond drill holes (2485.98 m) across the length of the claim group. In Apr/2009 the company changed its name to Quetzal Energy Ltd.

GEOLOGY

The claim group is located approximately 23 km east of Eagle Plains Lodge which is situated at km 555 of the Dempster Highway near the border with the Northwest Territories. The area is located on the west side of the Richardson Trough a north to northwest-trending intracratonic depression formed during Early to Middle Paleozoic time. Deep water shale and argillaceous limestone of the Ordovician to Silurian Road River group are deposited within the trough atop Cambrian and Proterozoic age strata. Younger Paleozoic sediments unconformably cap the Road River Group within the trough and elsewhere in the surrounding broader basin. The entire stratigraphic section is folded by a large-scale anticline that plunges to the north. This anticline is called the Richardson Anticlinorium and its axis approximately coincides with the centre of the trough. To the east, the Richardson Trough is bound by the Trevor fault and to the West the Deception fault.

The occurrence lies over shallowly (15-25°) west dipping shales which are assigned to the Middle to Upper Devonian Earn Group and Ordovician to Silurian Road River Group. The Earn Group is comprised of sandy shale belonging to the Imperial Formation which conformably overlies siliceous shale of the Canol Formation. Calcareous shale assigned to the Road River Formation unconformably underlies the Canol Formation. The contact between the Earn Group and Road River Group is marked by a distinctive lithological sequence consisting of phosphatic chert member, sulphide horizon, nodular shale and limestone member.

The 4 to 8 m thick phosphatic chert member sits at the base of the Canol Formation. Immediately below the phosphatic chert is a regionally thin nickeliferous massive sulphide horizon commonly referred to as the NiMo horizon. The NiMo horizon marks the contact between the Canol Formation and the Road River Group and is usually less than 0.5 cm thick and often appears to be lenticular. A similar massive sulphide horizon is reported at the same stratigraphic location at the Nick occurrence (Minfile Occurrence 106D 092) located 177 km to the southwest. The Nick massive sulphide horizon covers an area greater than 80 square kilometres and comprises pyrite, vaesite, melnikovite-type pyrite, sphalerite and wurtzite hosted in a gangue of phosphatic-carbonaceous chert, silica and bitumen. Rock assays from the Nick horizon typically average 3% nickel, 0.20% molybdenum, 0.82% zinc, 0.82% vanadium, 310 ppm platinum and 150 ppb palladium over narrow widths (i.e. < 10 cm). Strategic Metals staked the Rich claims to explore for this type of mineralization. Beneath the massive sulphide layer is a 20 cm to 1.2 m thick nodular shale followed by a 1.5 to 10 m thick limestone ball member.

The Devonian Imperial Formation and Canol Formation cover the western half of the claim group while the Cambrian to Devonian Road River Group covers the eastern half. The NiMo horizon trends northwest – southeast across the length of the property. The horizon is exposed in several deep canyons scattered across the claim group. The best exposure can be found in a large canyon located in the centre of the claim group.

Southampton orientated their soil line perpendicular to the assumed surface trace of the NiMo horizon. Soil samples returned anomalous values of up to 1 190 ppm nickel, 253 ppm molybdenum, 1.14% zinc, 286 ppm copper and 11.65 ppm silver. The strongest response was returned from the southern half of the claim group. Silt samples returned anomalous values up to 287 ppm nickel, 108 ppm molybdenum, 2 330 ppm zinc, 504 ppm copper and 2.36 ppm silver with the best results coming from samples collected downstream of the NiMo horizon. Chip samples collected from the NiMo horizon returned anomalous values up to 4.78% nickel, 2 690 ppm molybdenum, 6 170 ppm zinc, 4.79 ppm silver and anomalous values for platinum and palladium.

The helicopter-borne VTEM and magnetic survey outlined a weak linear zone of low susceptibility corresponding to the surface trace of the NiMo horizon. Although the survey appears to have clearly identified the favourable contact, the data are too coarse to pick out subtle variations within the NiMo horizon itself.

Fourteen of the drill holes intersected the Canol Group – Road River Group contact, with ten of the holes intersecting the NiMo horizon. The thickness of the horizon ranges approximately from 1 to 196 cm, however excluding hole RI07-08 which intersected 196 cm of horizon, the average thickness of the horizon is 3.5 cm. Excluding results from hole RI07-08, the mineralized horizon returned an average of 3.45% nickel, 0.161% molybdenum, 1.10% zinc, 113 ppb gold, 184 ppb platinum, 140 ppb palladium and 18.9 ppm rhenium over 3.5 cm. Two drill holes RI07-06 and RI07-12 collared 250 m south and north of hole RI 07-08 contained two distinct NiMo horizons separated by generally low assay values. Deeply and strongly weathered bedrock hampered efforts in the southern half of the property where most of the holes were abandoned before reaching the NiMo horizon.

Work History

Date	Work Type	Comment
12/31/2007	Geochemistry	silt and soil sampling

12/31/2007	Drilling	25 holes, 2485.98 m
12/31/2007	Airborne Geophysics	Helicopter-borne VTEM and magnetic survey flown over entire claim block.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
094891	2007	Prospecting, Mapping, Geochemical Sampling, Geophysical Surveys and Diamond Drilling	VTEM - Airborne Geophysics, Diamond - Drilling, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Prospecting - Other	23	2485.98

Related References

Number	Title	Page(s)	Reference Type	Document Type
2003-9(D)	Yukon Digital Geology (version 2)		Yukon Geological Survey	Open File (Geological - Bedrock)
2006-3	Mineral Assessment of the Eagle Plain Study Area, Yukon.		Yukon Geological Survey	Open File (Geological - Bedrock)
YEG2007_OV	Yukon Exploration and Geology Overview 2007	2-42	Yukon Geological Survey	Annual Report

Drill core at YGS core library

Number	Property	Year Drilled	Core Size	Photos	Data
RI07-01	Rich	2007	BTW	2	1
RI07-02	Rich	2007	BTW	12	1
RI07-05	Rich	2007	BTW	2	2
RI07-06	Rich	2007	BTW	4	3
RI07-07A	Rich	2007	BTW	20	2
RI07-08	Rich	2007	BTW	2	2
RI07-10	Rich	2007	BTW	4	2
RI07-12	Rich	2007	BTW	2	3
RI07-13	Rich	2007	BTW	2	2
RI07-14A	Rich	2007	BTW	2	2
RI07-14B	Rich	2007	BTW	2	2
RI07-15	Rich	2007	BTW	2	1
RI07-16	Rich	2007	BTW	14	3
RI07-17	Rich	2007	BTW	2	2
RI07-18	Rich	2007	BTW	2	3
RI07-19	Rich	2007	BTW	2	3
RI07-20	Rich	2007	BTW	14	3
RI07-22	Rich	2007	BTW	2	2
RI08-25	Rich	2007	HQ-NQ	42	1