

Taiga property: A stratiform Ni-Zn-PGE target in north-central Yukon

Brian P. Butterworth¹ and David Caulfield²

¹Blackstone Resources Inc., 501-675 West Hastings St., Vancouver, B.C. V6B 1N2

²Equity Engineering Ltd., 207-675 West Hastings St., B.C. V6B 1N2

<http://www.canvest.com/blackstone/>

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ABSTRACT

The Taiga property consists of 1043 claims located 95 km northeast of Dawson and 6 km east of the Dempster Highway. Ordovician to Silurian Road River Group dolomite and black calcareous shales overlain by Devonian-Mississippian Earn group siliceous shales, chert and conglomerate underlie the property, and comprise the Taiga Basin, an off-shelf outlier on the Mackenzie Platform.

The area was explored by UMEC in 1976 and 1977 with a large silt and soil sampling program to evaluate shale-hosted lead-zinc-barite potential. In 1994 Blackstone Resources Inc. acquired the database, and discovered a thin pyrite-vaesite horizon which assayed 2.06% Ni with elevated Mo, Au and PGE. Geological mapping in 1996 resolved thrust faults and distinguished three members in the Lower Earn Group. The lowest member is a rhythmic, carbonate-rich section of argillite, shale, siltstone, limestone, with a distinctive siliceous shale containing limestone balls at the top. The middle member, of lower Middle Devonian age, contains thick bedded barite, baritic and carbonaceous shale and the nickel-sulphide mineralization. The upper member comprises chert, cherty argillite and minor barite. In addition to the discovery (TB) showing, mineralization is located 450 m south at the DM showing, and 4 km east (MM showing).

In 1997, 12 holes tested the lateral and down-dip extent of nickel-sulphide mineralization at the DM and TB showings, as well as the MM grid area. Significant results from drilling at the MM grid include 25.5 m of 0.51% Ni and 0.41% Zn within which a 5.3 m interval graded 1.42% Ni and 0.70% Zn.

RÉSUMÉ

Le terrain de Taiga comprend 1043 claims situées à 95 km au nord-est de Dawson et à 6 km à l'est de la route de Dempster. Le terrain repose sur des dolomies et des shales charbonneux noirs du Groupe ordovicien à silurien de Road River, lesquels sont sous-jacents à des shales siliceux, des cherts et des conglomérats du Groupe dévono-mississippien d'Earn. Il comprend également le bassin de Taiga, lambeau d'érosion océanique sur la plate-forme de Mackenzie.

La région a été explorée en 1976 et 1977 par la société UMEC, qui a mis en oeuvre un important programme d'échantillonnage de silt et du sol afin d'évaluer le potentiel de barytines plombifères et zincifères incluses dans des shales. En 1994, la société Blackstone Resources Inc. a acquis la base de données et découvert un mince horizon de pyrite-vaesite titrant 2,06% de Ni et présentant des teneurs élevées en Mo, en Au et en éléments du groupe du platine. Des travaux de cartographie géologique réalisés en 1996 ont permis de localiser les failles de chevauchement et de distinguer trois membres dans le Groupe Lower Earn. Le membre inférieur est une section rythmique riche en carbonates composée d'argillite, de shale, de siltstone, de calcaire et d'un shale siliceux distinctif contenant des boules calcaires au sommet. Le membre médian, datant du début du Dévonien moyen, contient des shales à lits épais carbonés, bariteux et à barite ainsi que la minéralisation de sulfures nickelifères. Le membre supérieur se compose de chert, d'argillite cherteuse et de barytine peu abondante. Outre la venue de découverte (TB), des minéralisations sont présentes à 450 m vers le sud, à la venue DM, et à 4 km vers l'est (venue MM).

Le forage en 1997 de 12 trous a permis de déterminer, aux venues DM et TB ainsi que dans les zones quadrillées MM, l'étendue latérale et en aval-pendage des minéralisations de sulfures nickelifères. Parmi les résultats importants fournis par les sondages dans la zone MM figure la présence d'un intervalle de 25,5 m contenant 0,51% de Ni et 0,41% de Zn, au sein duquel un sous-intervalle de 5,3 m titre 1,42% de Ni et 0,70% de Zn.

INTRODUCTION

The Taiga property lies within the Taiga Shale Basin, some 95 kilometres northeast of Dawson City in north-central Yukon. The property is situated within gentle to moderate terrain of the Puddingstone Range, Ogilvie Mountains. The Dempster Highway passes within six kilometres of the western claim boundary (Fig. 1). The Taiga property consists of 1043 claims located in the Dawson and Mayo Mining Districts. Major General Resources Ltd. has a 25% interest in 16 of the claims with the remainder owned 100% by Blackstone Resources Inc. and under option to Glenhaven Resources Inc.

HISTORY

The Taiga property and surrounding area was explored by UMEC in 1976 and 1977 for shale-hosted lead-zinc-barite deposits. As part of their overall program, UMEC completed detailed silt sampling (5836 samples) and soil sampling (4540 samples) on the Taiga property and surrounding area, identifying extensive Zn geochemical anomalies and hydrozincite-coated shales, limestone and chert. In 1994, Blackstone Resources Inc. acquired UMEC's database, sample pulps and an option to purchase a 75% interest in 16 claims dating from 1976. Prospecting led to the discovery of the TB Showing, a thin bed of pyrite-vaesite which assayed 2.06% nickel with elevated molybdenum, gold and platinum group elements (PGE). In 1995, Blackstone re-analysed 2915 soil pulps from the area and staked 178 claims to cover the TB Showing as

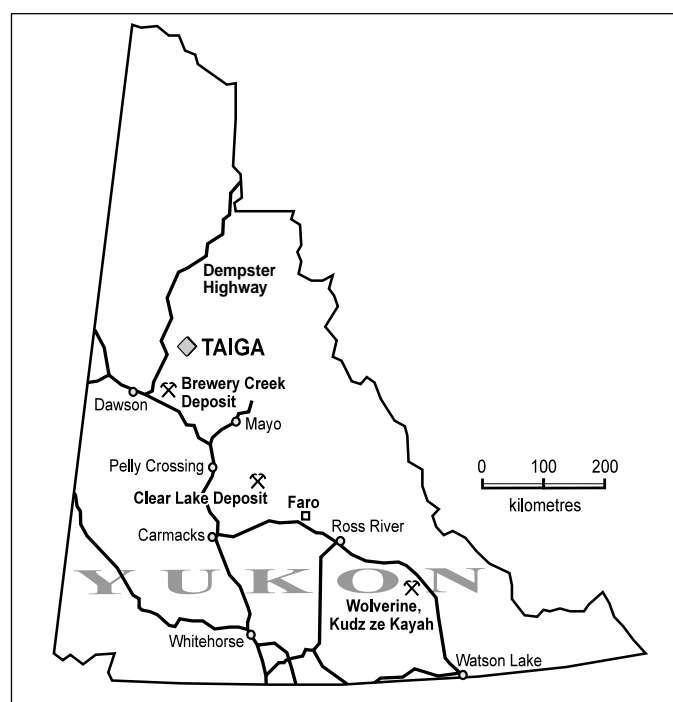


Figure 1. Taiga property location map.

well as several strong, coincident, stratigraphically-controlled Ni-Mo-Zn-As soil geochemical anomalies.

In 1996, a program of geological mapping, prospecting and soil sampling was carried out. New occurrences of nickel-sulphide mineralization were found 450 metres south of the TB Showing at the DM Showing and in two thrust panels of the MM grid, located some 4 kilometres east of the TB showing (Fig. 2). Soil sampling in the MM grid area identified a nickel-in-soil geochemical anomaly 2.5 km long and 300 m wide.

In 1997, Blackstone granted an option to Glenhaven Resources Inc. whereby Glenhaven could earn up to a 60% interest in the Taiga Property. In August, Glenhaven undertook a 12-hole diamond drilling program to test the lateral and down dip extent of nickel-sulphide mineralization exposed at the TB and DM showings as well as to test a laterally extensive nickel-in-soil geochemical anomaly in the MM Grid area. Successful results from the 1997 drilling program led to the staking of an additional 1274 claims within the Taiga Basin before year's end.

GEOLOGY

The Taiga Basin consists of Ordovician to Silurian Road River Group dolomite and black calcareous shales overlain by Devonian-Mississippian Earn Group siliceous shales, chert and conglomerate with minor carbonate units near the lower contact. It lies within an off-shelf 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 property 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 metre in diameter form a distinctive marker that lies at the top of this sequence. A chert and chert pebble conglomerate unit caps the entire succession.

A nickel-bearing horizon lies at the contact between the limestone ball unit and overlying chert. At the TB and DM showings, near the western part of the property, the nickel-bearing horizon is represented by a thin (<40 cm) layer of massive pyrite-vaesite (Fig. 2). The mineralization is exposed along creek banks where samples have returned assay values up to 5.21% nickel and 904 ppb combined gold, platinum and palladium over thicknesses ranging from 6 to 50 centimetres. In contrast, at the MM Grid, lithologies directly overlying the limestone ball unit consist of a calcareous barite horizon and overlying carbonaceous, fossiliferous, baritic and phosphatic black shale. The nickel mineralization is concentrated in two zones that are separated by a brecciated and stockwork-veined

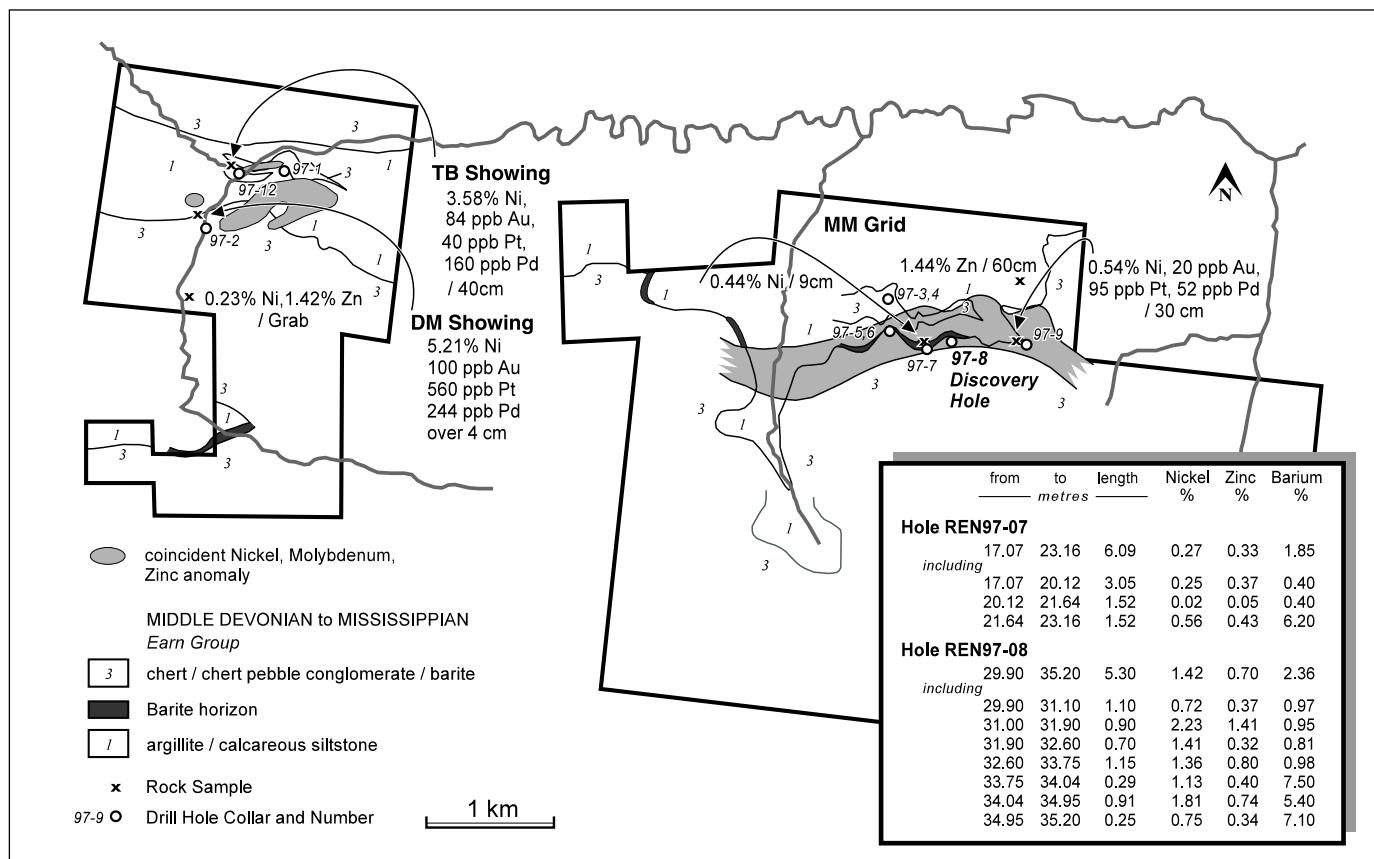


Figure 2. Geological/geochemical compilation map of the Taiga property.

bedded barite horizon (Fig. 3). The higher grade nickel mineralization in the upper zone is hosted in a fossil-rich bed containing baritic limestone balls.

CURRENT WORK AND RESULTS

In 1997, Blackstone Resources and joint venture partner Glenhaven Resources spent \$220 000 on the Taiga Property. The program consisted of 616 metres of diamond drilling in 12 holes that were positioned to test 3 target areas, namely the TB Showing, DM Showing and MM Grid, that occur over a lateral extent of 10 kilometres. The most significant results were obtained from the MM Grid area where drill hole 97-08 intersected 25.5 metres of 0.51% nickel and 0.41% zinc. This interval included a 5.3 metre section that graded 1.42% nickel and 0.70% zinc.

A comprehensive drilling program to test over one kilometre of coincident barite and nickel-zinc soil anomalies in the MM Grid area is proposed for 1998. As well, mapping, sampling and drilling is planned to test several other areas of coincident barite and nickel-zinc soil anomalies. Follow-up exploration consisting of mapping, soil and rock sampling is planned for newly staked areas north of the Taiga Property.

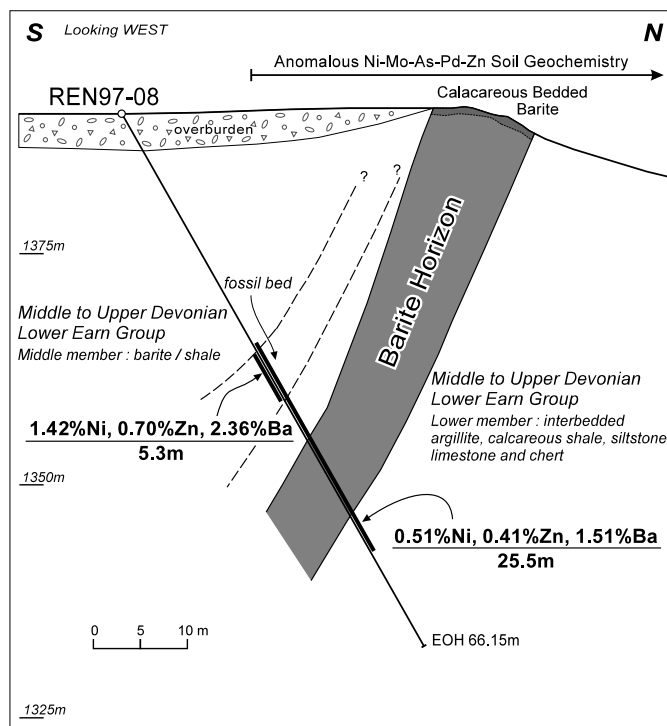


Figure 3. Cross-section based upon drill hole 97-08 in the MM Grid area.

