

Geology and mineralization on the Dromedary property, central Yukon

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ABSTRACT

The Dromedary property consists of 344 claims on Dromedary Mountain, Kalzas Mountain, and the intervening Macmillan River valley, all immediately northeast of Tintina Trench and 240 km northeast of Whitehorse. The property lies within Selwyn Basin geological terrane, and the following rock units are present: Proterozoic-Cambrian Hyland Group, Kechika phyllite and limestone, minor Road River shale and siltstone, Earn Group conglomerate, limestone, black silty shale and baritic chert, and overlying Permian shelf sediments. South Fork subvolcanic intrusions and Cretaceous granitic plugs have induced local biotite- and calc-silicate hornfels and skarn.

The area was staked by Anaconda in 1980 and four areas of interest identified: Dromedary Creek, Dromedary Mountain, François and Kal-Cave. Blackstone Resources Inc. optioned the property in 1996 and has drilled the Dromedary Creek and François areas, encountering massive sulphide mineralization in all five holes. Economic grade Pb-Zn and massive pyrrhotite with significant gold occur on the François grid.

In 1997 the magnetic signature of the pyrrhotite on the François grid was traced 5 km, and soil anomalies were detected further to the west. In the Kal-Cave area a 7.5 km long lead-zinc soil anomaly was refined and numerous new occurrences of iron-sulphide mineralization, carbonate porphyroblasts, manganese and iron oxide were detected. Best samples from this area contain 5.53% Pb and 5.83% Zn.

RÉSUMÉ

Le terrain de Dromedary se divise en 344 claims sur Dromedary Mountain et Kalzas Mountain et dans la vallée mitoyenne de Macmillan River, immédiatement au nord-est du sillon de Tintina et à 240 km au nord-est de Whitehorse. Le terrain repose sur le terrane géologique du bassin de Selwyn. On y trouve les unités rocheuses suivantes : Groupe protérozoïque-cambrien de Hyland; phyllades et calcaires de Kechika; shales et siltstones de Road River peu abondants; conglomérats, calcaires, shales silteux noirs et cherts baryteux du Groupe d'Earn; et sédiments épicontinentaux permien sus-jacents. Les intrusions subvolcaniques de South Fork et des culots granitiques crétacés ont engendré la formation localisée de cornéennes et de skarns à biotite et calco-silicatées.

La région a été jalonnée en 1980 par la société Anaconda. Quatre régions d'intérêt ont été identifiées : Dromedary Creek, Dromedary Mountain, François et Kal-Cave. La société Blackstone Resources a obtenu une option pour le terrain en 1996 et réalisé des sondages dans les régions de Dromedary et François; les cinq trous de sondage ont traversé des minéralisations sulfurées massives. La région quadrillée de François contient du Pb-Zn à teneur économique et de la pyrrhotite massive renfermant de l'or en quantités importantes.

En 1997, on a retracé dans la région de François, sur une longueur de 5 km, la signature magnétique de la pyrrhotite; des anomalies pédologiques ont été détectées plus loin vers l'ouest. Dans la région de Kal-Cave l'étude d'une anomalie pédologique de plomb-zinc de 7,5 km de longueur a été affinée et de nombreuses occurrences nouvelles de minéralisations de sulfures ferri-fères, de porphyroblastes carbonatés et d'oxydes de manganèse et de fer ont été détectées. Les échantillons les plus prometteurs de la région contiennent 5,53% de Pb et 5,83% de Zn.

INTRODUCTION

The Dromedary property is a sedimentary exhalative lead-zinc-silver prospect located east of the Tintina Trench in the Selwyn Basin, 240 kilometres north of Whitehorse in the central Yukon (Fig. 1). The property is situated on the slopes of Kalzas and Dromedary Mountains and covers a portion of the low-lying MacMillan River valley between these two mountains. The property consists of 344 claims in the Whitehorse and Mayo Mining Districts. Blackstone Resources Inc. has an option to earn a 100% interest in the property.

HISTORY

The Dromedary property was staked by Anaconda Canada Exploration Ltd. following a regional exploration program in 1980. Anaconda conducted extensive exploration, including EM, magnetometer and gravity surveys in 1981 and 1982. They identified, from east to west, four areas of interest: Dromedary Creek, Dromedary Mountain, François Grid and Kal-Cave area. Drilling was completed on the Dromedary Mountain and Dromedary Creek claims by Anaconda. The next period of exploration, 1988-1990, was conducted by Dromedary Exploration Company Ltd., culminating in a two-hole drilling program.

In 1996, Blackstone Resources Inc. conducted a 939 metre drilling program to test geophysical anomalies at Dromedary Creek (one hole) and François Grid (four holes). This drilling

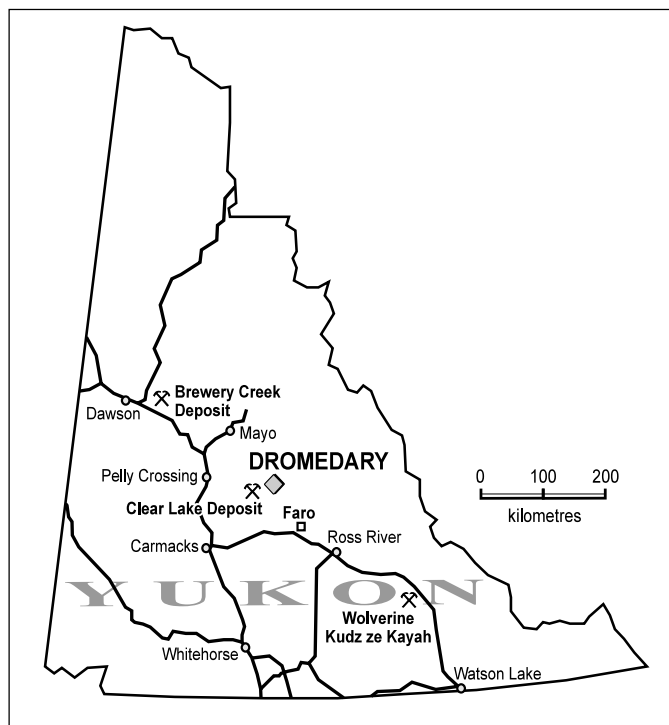


Figure 1. Dromedary Property location map.

intersected syngenetic massive sulphide mineralization in all holes, with the most significant results from the François Grid area. Here, narrow intervals of economic grade zinc-lead massive sulphide mineralization, as well as massive pyrrhotite mineralization containing significant gold concentrations were intersected. Minor mapping, prospecting and sampling was done in the Kal-Cave area where a number of showings were known to occur along a 7.5 kilometre long, lead-zinc-silver soil geochemical anomaly.

In 1997, Blackstone granted an option to 523148 B.C. Ltd. whereby 523148 B.C. Ltd. could earn up to a 60% interest in the Dromedary property. In July, 1997, 523148 B.C. Ltd. undertook an exploration program consisting of magnetometer and gravity geophysical surveys in the François Grid area and mapping and sampling in the Kal-Cave area.

GEOLOGY

The property is located within the Selwyn Basin geological terrane near the boundary with the Cassiar Platform. The oldest units exposed in the area are Proterozoic-Cambrian Hyland Group, and extensive areas of Cambro-Ordovician Kechika Group phyllite and limestone (Fig. 2). Minor exposures of Ordovician Road River Group shale and siltstone are also present. The most extensive unit in the area of interest is the Mississippian Earn Group. Earn Group lithologies include chert pebble conglomerates of the Crystal Peak Formation, fossiliferous limestone of the Kalzas Formation, black silty shale, argillite and an unnamed middle Mississippian chert-siltstone containing massive barite. A Permian-Triassic sandstone-shale-limestone unit blankets earlier Paleozoic strata. Middle Cretaceous subvolcanic intrusions of the South Fork Formation and quartz monzonite-granodiorite of Cretaceous age (99-120 Ma) intrude the above stratigraphy resulting in local biotite and calc-silicate hornfels and skarn.

In the François Grid area, widespread, locally massive, pyrrhotite mineralization is associated with a strong magnetic trend, with numerous associated gravity high anomalies (Fig. 3) which strikes across the François Grid area for over 5 kilometres. This pyrrhotite mineralization is associated with significant lead-zinc mineralization in at least two areas of the grid, including massive galena-sphalerite mineralization intersected in the 1996 drilling (Fig.4). Gold is apparently enriched in the massive pyrrhotite mineralization, as well as lead and zinc. Extensive overburden has prevented more detailed examination of the mineralized trend on the François Grid.

A mineralized horizon of similar extent exists in the Kal-Cave area where several showings have been located along the length of a 7.5 kilometre-long lead-zinc soil anomaly. Here, stringers of galena and sphalerite occur in a bedding parallel zone hosted by siliceous siltstones and quartzites as well as fossiliferous shale. Pyrrhotite is not as common in this zone although

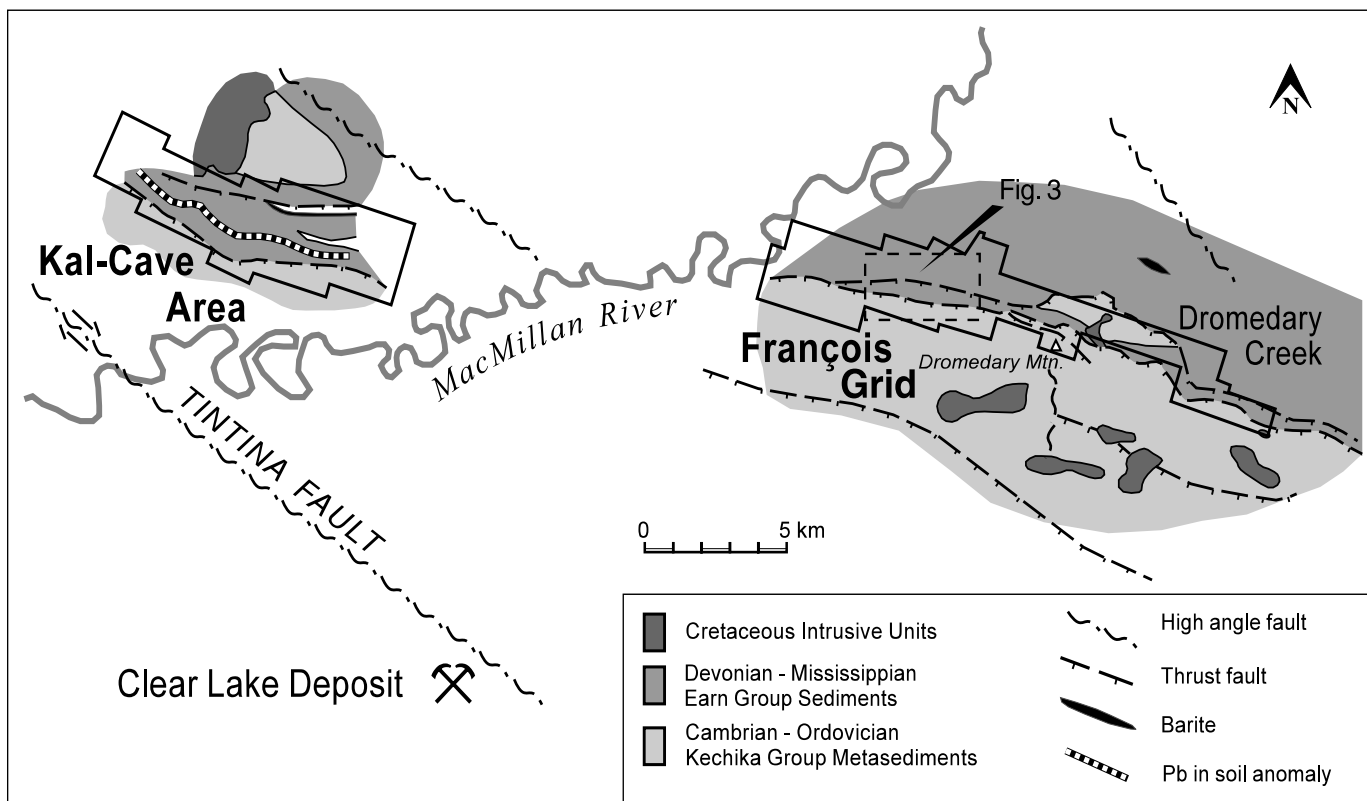


Figure 2. Geological outline map of the Dromedary area.

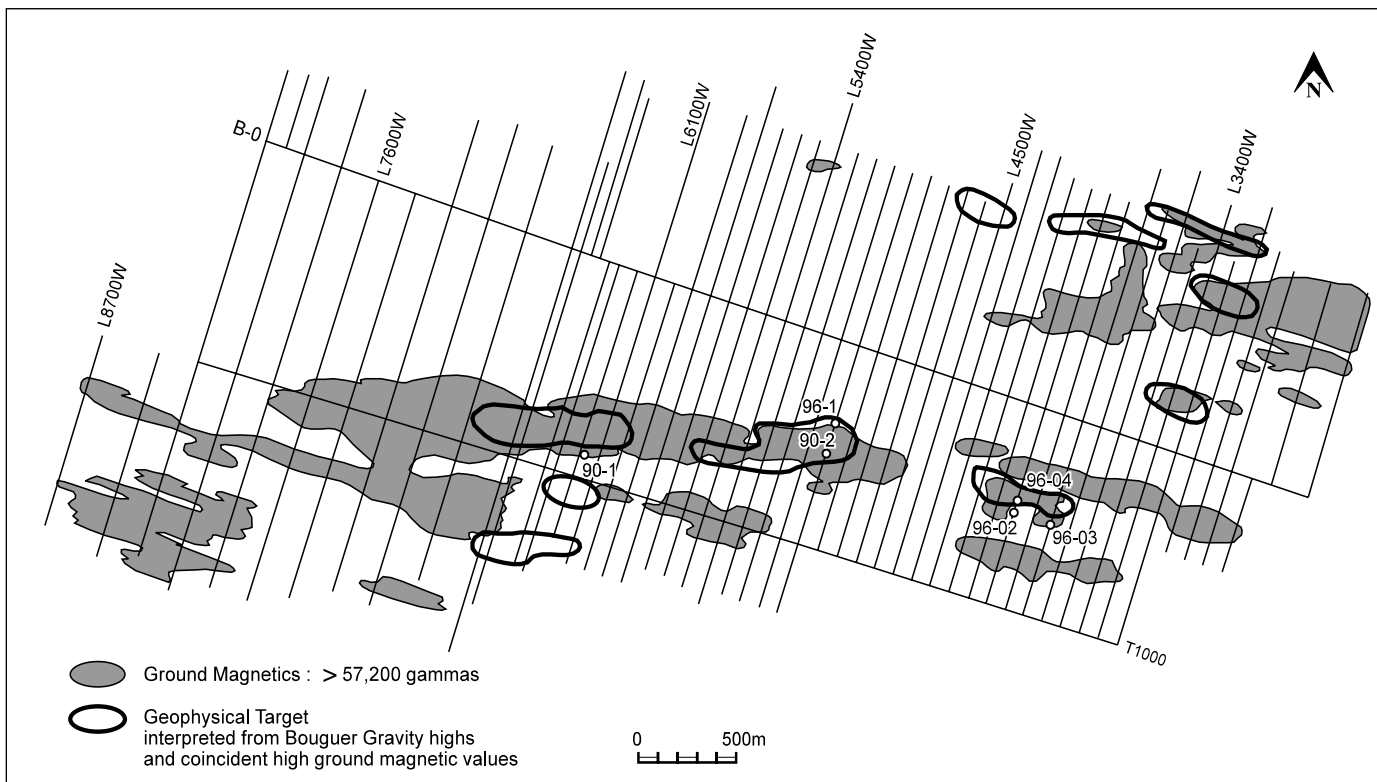


Figure 3. Geophysical compilation of the François Grid.

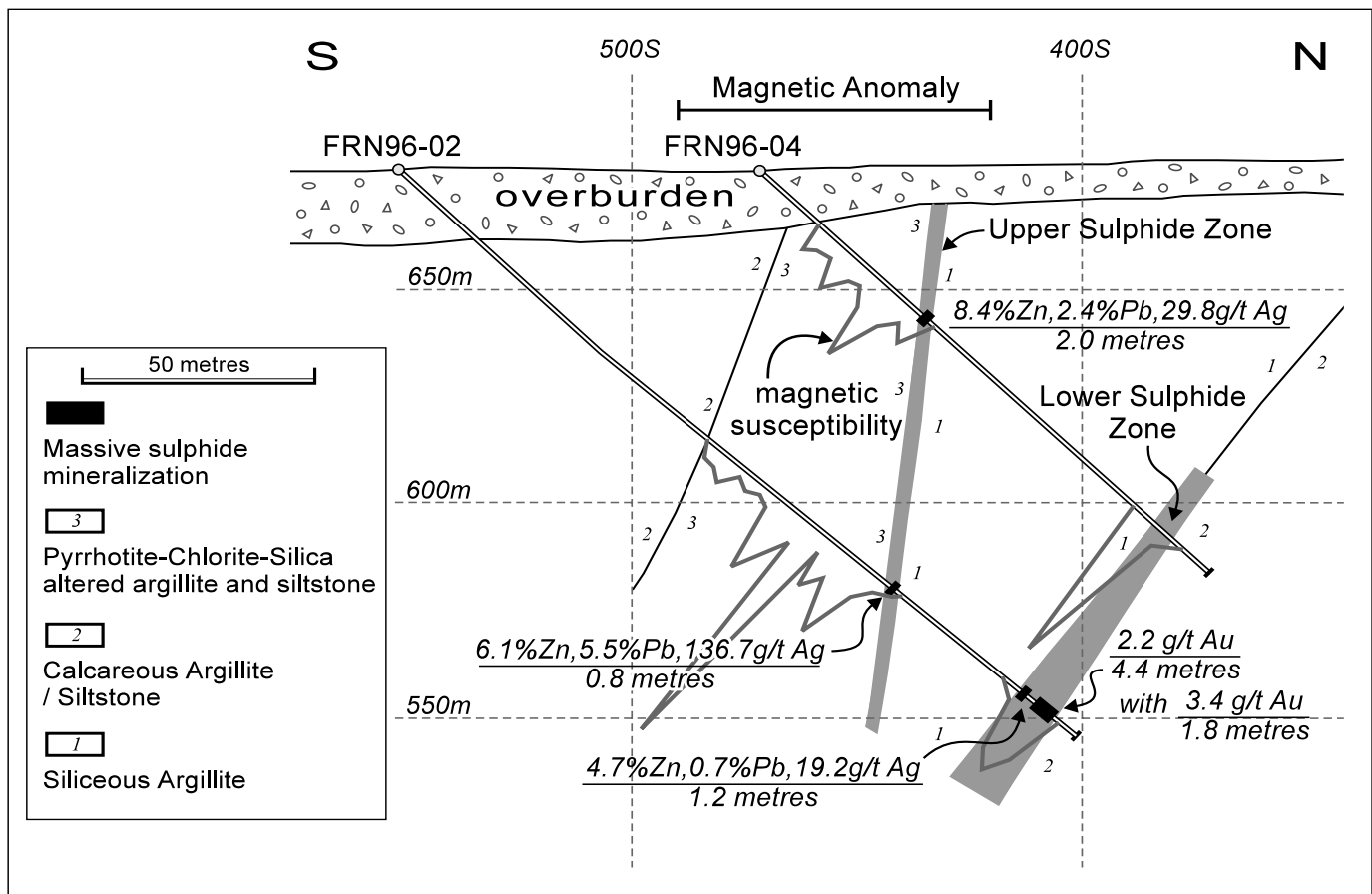


Figure 4. Cross-section 40+00W on the François Grid.

abundant ferricrete development suggests that iron sulphides are common. The zone ranges from several metres wide in eastern exposures to a discontinuous section of anomalous rocks almost 100 metres wide at the Cave showing in the west part of the property.

CURRENT WORK AND RESULTS

Exploration activity on the Dromedary Property in 1997 consisted of 33 line-kilometres of gravity surveying, 71 line-kilometres of magnetometer surveys in the François Grid area and mapping and sampling along a 7.5 kilometre-long, lead-zinc soil anomaly in the Kal-Cave area. The geophysical surveys in the François Grid have provided important refinements of the

geological trends related to the mineralization. A strong magnetic signature associated with massive pyrrhotite mineralization has been traced over 5 kilometres and numerous coincident gravity and magnetic anomalies detected along this trend are attractive exploration targets. As well, mapping, sampling and prospecting in the Kal-Cave area led to the discovery of several new showings that warrant further investigation.

A comprehensive drilling program to test several of the geophysical anomalies in the François Grid is proposed for 1998. As well, work in 1998 will focus on specific targets in the Kal-Cave area. The exploration program in this area will consist of detailed mapping and trenching as well as magnetometer and electromagnetic geophysical surveys.