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### JASPER PROPERTY SUMMARY

#### **INTRODUCTION**

The Jasper Property consists of 2 mineral claims totalling 40 units owned by A. O. Birkeland. The property is located in NTS 092C/15 (BCGS 092C 088) approximately 12 km southwest of Cowichan Lake in the Victoria Mining Division. Public access roads from Cowichan Lake or Port Alberni service the area and relatively recent logging activity and associated road building over virtually almost the entire claim group provides excellent access and abundant road-cut rock exposures. The current land classification is general use and no protected areas are present in the area directly affected by any potential future operation.

#### **PROPERTY HISTORY**

Hudson Bay Exploration and Development and Marshall Creek Copper Mining conducted grid mapping, soil geochemical and geophysical surveys on the Tam (#092C 016) and Pan (#092C 088) Minfiles Occurrences during 1971-1975. Chargeability and co-incident soil multi-element anomalies were defined and drilling was recommended but never carried out. The Jasper (#092C 080) prospect was staked in 1983 and explored by Falconbridge in 1985 and Asamara in 1987. A high-grade massive sulphide showing was identified as well as a corresponding poly-metallic soil anomaly. Aside from four "Packsack" holes drilled by Falconbridge (one of which intersected massive sulphide over 1.6 m), **none of the showings or targets identified to date have been explored by trenching or diamond drilling.**

#### **GEOLOGY, STRUCTURE AND ALTERATION**

The Claims are underlain by mafic, intermediate and felsic sub-aqueous volcanic flows and flow breccias and minor volcanoclastic sediments mapped as lower Jurassic Bonanza Formation. However, no fossil or age dating has been conducted and GSC and BCDM geologists have suggested that the property may be underlain by Sicker Group rocks which host the Myra Falls polymetallic volcanogenic massive sulphide deposits currently operated by Westmin Resources.

Four Mile Creek drainage lies along a very evident north-south lineament which transgresses the entire width of Vancouver Island. A corresponding +5 km long gossanous alteration zone generally is characterized by argillic alteration with ubiquitous pyrite flooding and is generally concurrent with the volcanic contacts. This lineament and associated alteration is assumed to be a major deep-seated failed rift reactivated during an evident Tertiary age orogeny. The original rift controlled the disposition of subaqueous mafic and felsic pyroclastic volcanism accompanied by quiescent periods marked by intercalated sedimentation and possible sulphide deposition. Later Tertiary

faulting accompanied by the intrusion of Catface dykes and sills and associated quartz-epidote +/- sulphide veins overprinted, re-mobilized and caused minor dislocation of possible original sulphide mineralization.

### **MINERALIZATION**

At least nine high-grade Cu-Zn sulphide showings have been identified on the property to date.

At the J-Branch Main Showing at the Jasper Minfile Occurrence, two massive sulphide lenses are traceable in outcrop in fairly recent road-cuts over a strike length of +44 m. The lenses are separated by approximately 5 m of chloritized rock and may be converging with depth. The lenses vary between 0.8 m to 2.7 m true width and contain massive or crudely banded pyrite, chalcopyrite and sphalerite. Fragmental massive sulphide and mafic and felsic volcanic fragments are commonly contained in a massive sulphide matrix. Representative continuous chip sampling returned weighted grades of over 2% Cu and 3% Zn over true widths of up to 2.7 m. Grades of 2% to 4% Cu, 2% to 9% Zn, 0.2 to 1 g/t Au and 10 to 26 g/t Ag over 1 m true widths are common. Black chlorite alteration appears to structurally underlie the sulphide mineralization. A 1.5 km long quartz body in the structural hangingwall may be a re-mobilized chert unit.

To the south in the vicinity of the Pan Minfile Occurrence, massive sphalerite, galena, pyrite and chalcopyrite showings with exposed widths to 2 m are present in road-cuts. Best assays are 4.6% Cu, 17.4% Zn, 129 ppb Au and 38 ppm Ag over 2 m and 1.3% Cu, 27% Zn, 20% Pb and 24 g/t Ag over 0.3 m.

### **GEOCHEMISTRY**

Over 4,000 soil samples located on three principle grids are reported taken, although only limited soil sampling was conducted on the J-Branch Main Showing. Essentially, soil sampling indicates coincident anomalous Cu-Zn +/- Ag-Au over a +4 km strike length within the alteration zone.

Soil sampling during 1995 verified previous sampling returning results of up to 810 ppm Cu, 872 ppm Zn, 686 ppm Pb, 375 ppb Au and 2 ppm Ag over a +4 km strike length. Known showings respond positively where sampled and numerous supplemental anomalies indicate the presence of additional mineralized zones.

### **GEOPHYSICS**

An IP survey was conducted over the Tam and Pan prospects by Hudson Bay Exploration and Development. *"The survey located several strong chargeability anomalies which when correlated with the soil sampling and rock assay data appear to be particularly interesting"*. Drilling was recommended but never carried out.

Falconbridge conducted a limited VLF EM-16 survey in the vicinity of the J-Branch Main Showing on the Jasper Prospect. Three anomalies were identified, *"one of which is over the showing"*.

Additional geophysical work was recommended but was not carried out.

**CONCLUSIONS**

Three Minfile Occurrences which have seen historical exploration activity dating back to the early 1970's under fragmented ownership have now been consolidated as one contiguous claim group held under one ownership.

A very large hydrothermal system has been active over a +5 km strike length on the property resulting in an extensive alteration belt. More than nine high-grade Cu-Zn massive sulphide showings are contained within a +4 km long geochemically anomalous trend within the alteration zone. **Conventional Diamond Drilling has been recommended by several operators but never carried out.**

It is possible that some of the known mineralized outcrop showings are of the volcanogenic massive sulphide class and have previously not been readily recognizable because recent Tertiary age faulting has slightly dislocated, re-mobilized and overprinted the original metallogenic setting.

The property exhibits the following characteristics common to volcanogenic environments:

Massive sulphide showings are stratabound with (poorly developed) foliation and are generally at the contacts between subaqueous mafic, intermediate and felsic differentiated volcanic units.

At the Main Showing on the Jasper Occurrence, chloritic alteration is present in what appears to be the structural footwall of the mineralized zone; re-mobilized chert? appears present in the structural hangingwall and is reported elsewhere on the property.

Massive sulphide mineralization commonly demonstrates compositional layering or crude banding of chalcopyrite, sphalerite and pyrite. Large (up to 1 m) massive sulphide fragments are present in some massive sulphide lenses which also contain (co-genetic?) mafic and felsic volcanic (and chert?) wallrock fragments.

A characteristic volcanogenic mineral assemblage containing Cu, Zn, Pb, Ag, Au, Cd, and Ba is present.

  
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