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**Haida Gold (Blue Mule) Property**

103-C16 E

**Geochemical Evaluation**

by

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**GEOCHEMICAL EVALUATION OF THE HAIDA PROPERTY**  
Queen Charlotte Islands, B.C.

The property is located in the Kootenay Inlet, on the west side of Moresby island. Triassic massive greenstones of the Upper Karmutsen formation are found in contact with Jurassic limestones and shales. Shearing and brecciation of the greenstone occurred with chlorite alteration with minor fault gouging followed by quartz vein injection, all favorable to precious metal deposition. This evaluation is based on the following assays:

- A small soil grid (500 m x 500 m).
- Creek & bank sampling (500 m).
- Various rocks assays.
- Drill core samples.

1. Soil Grid (fig. 6)

A soil grid (500 m x 500 m) straddle the creek located below the A<sub>2</sub> & A<sub>1</sub> portals. It consists of 55 top soil samples of Ah-A<sub>2</sub> horizons, analysed for zinc, silver and gold at Acme lab. Threshold values are: for zinc = 100ppm; silver = 1ppm; and gold = 15ppb; this is indicative of:

- high zinc contrast (360-220ppm) near the limestone volcanic contact.
- Zinc & silver correlation, which values also reflect a possible sulphide gold association.
- High gold background occur throughout the area.

Ten out of 55 stations are anomalous and should be resampled with a 25 m centre extension. B-C horizons sampling is recommended in order to locate a gold bedrock trend. An estimated 2 man-days will be necessary to do the follow-up sampling.





## 2. Stream Sampling

17 active stream sediments and 20 bank samples were collected 500 m upstream of BL<sub>2</sub> with 25 m spacing. Samples were analysed for gold-silver on 10 g -80 mesh samples. Gold values are anomalous with peaks located at 75 m east, Au = 450ppb for the stream and at 150 m east for the bank sample, Au = 320ppb. Unfortunately the active nature of the samples which are made of composite sediments do not represent any specific location. The sites are gold enriched and should be followed by a heavy mineral concentrate sampling method; ie:

- 3 concentrate sites along the same 500 m section.
- 4 concentrate sites downstream, 250 m apart
- 4 concentrate sites upstream, 400 m apart.

Thus a total of eleven sites or two man-days of work will cover adequately this drainage and provide 33 concentrate fractions to be analysed for gold by fire assay/A.A. finished on 30 g -200 mesh pulps.

Regional exploration for precious metals should make good use of this method since it is specific in outlining buried mineralization and in distinguishing between placer and bedrock source gold.

## 3. Various Rock & Drill Core Assays

Examination of the data suggest the possibility of finding disseminated gold along shears zones, iron-rich matrix breccia and country rocks associated with micro-silicification. Six rock samples have been selected for gold reassay on 30 g -200 mesh and for 36 elements, I.C.P. from which we draw the following conclusions:



- a. Alteration within the quartz vein zones of the Karmutsen pillow lavas sequence seems to be coincidental with gold mineralization as indicated by the underground Karmutsen wall rocks assays: 0.057, 0.115, 0.20 oz./ton.
- b. Arsenic (33ppm to 102ppm) & copper (120ppm to 232ppm) are coincidental with gold and silver enrichment and should be used as pathfinder in surfacial geochemistry.
- c. Gold assays show a small increase with the finer -200 mesh grind with 10% to 20% gold increase in the +200 mesh coarse fraction. Some samples seem to have, for the most part, very fine gold while others have a mixed proportion of fine and coarse gold. The above discrepancy can be explained through further rock geochemical sampling.

#### 4. Conclusion

The Haida property is a promising gold prospect with ore grade material from the old working, assays from 0.83 oz./ton to 0.12 oz./ton gold. Surface geochemical values seem to indicate a wide source of sulphide mineralization associated to a nearby limestone contact:

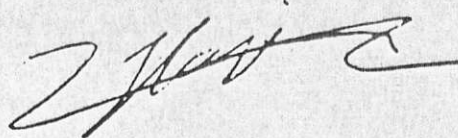
- Soils are high in zinc, silver and gold.
- A detailed (profile) sampling is needed to ascertain the nature and extend of the anomaly.
- Active stream sediment samples are indicating the presence of silver (3.4 ppm) and gold (130 to 450ppb) with consistant high gold values.

We recommend the use of Zelon's stream concentrate sampling procedure in order to outline the source of the precious metals. A rock geochemical data base is badly needed to explain the occurrence of gold in the old diggings and to find new ore zones. This property is very attractive



due to its potential for gold structurally controlled as vein-type and/or disseminated within the Karmutsen and Kunga formation limestone. The possibility for skarns and replacement deposits should not be discarded.

Respectively submitted,



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### STREAM CONCENTRATE - SAMPLING PROCEDURE

Concentration of heavy metals with gold and P.G.M.\* trapped with various grain size material, is occurring naturally in stream beds. Rock and soil erosion provide a large source of precious metal which is being concentrated by the streams. By sampling stream sediment concentrates, and analysing the various fractions, we are attempting to trace backward the erosional cycle.

Zelon's field sampling procedure combines the "old panning" method with the fire assay analysis of gold in separate size fractions:

1. Stream sample site selection on a bend or bar.
2. -10 mesh sorting from pits.
3. Weigh 6-10 kg, then pan to a volume of 400-800 cc.
4. Separate and count visible gold.
5. Sample preparation  
Segregate into size fractions and weigh distribution (-10 + 150 with spg.), (-10 + 35), (-35 + 80), (-80) Separate and weigh magnetite from -35 +80 and -80 fractions.
6. Analyse the various fractions for precious metal content using a minimum of 20 g crushed to -200 mesh.
7. Computer normalization and geochemical interpretation.
8. Field follow-up to source rock.

\* P.G.M. metals can be analysed along with gold using the same technique.



TRACE ELEMENT CORRELATION AND HIGHLIGHT

Haida Property  
(Values in ppm)

Sample No. 9113	Fe, As and B
9114	Fe, As, La, Cr, B
9117	<u>Cu (208)</u> , Fe, As, Sr, Ca, La
9118	Fe, Sr, Ca, La, B
9124	<u>As (33)</u> , W (7)
9125	Cu, Fe, As, Ca (5%), La, B, W (4)
9126	Sr, Ca (9%), La, B
9131	Ag, As (22), Ca, La (9), B
9161	<u>Cu (232)</u> , Ag, Fe, <u>As (102)</u> , Au (3), Ca, La, B
9164	Cu, Fe, La, B
9165	Cu, Fe, Sa, Ca (5%), La, B (11)
9168	<u>Ag (1.9)</u> , <u>Au (9)</u> , B, W (5)
84HR-30	Cu, Ag, Fe, Ca, La (10)
84HR-33	Cu, Fe, As, Ca, La, B (9)

STREAM CONCENTRATE METHODOLOGY  
(Procedural Diagram)

