

DENISON MINES LTD.

SUMMARY BOB CREEK PROPERTY, HOUSTON B.C.

HISTORY

The history of this property dates back to the days of the Cariboo gold rush when some placer gold was extracted, from the lower reaches of Bob Creek. Since that time sporadic placer operations have been conducted. The placer gold has been traced upstream to the Bob Creek canyon, where considerable work in the form of short adits, has been done in an attempt to evaluate the gold content of wall rock.

The present claims: Rod Nos. 4 and 6, Dot Nos. 3 and 5 are a restaking over 9 previous claims designated: Success, Jackpine, Spot, Xmas Nos. 1 ~~and~~ 3, Sunny Nos. 1 to 3.

In or about 1936, the present owner, Mr. George Smith, installed a small mill at the site and proceeded to crush and mill eighty-five tons of rock obtained from a 43 foot T shaped adit driven into the canyon wall. A concentrate of twelve tons was produced, containing the following values:

Au - 0.43 oz per ton  
Ag - 6.5 oz per ton  
→ Zn - 7.7 %  
Pb - no assay

*plus 1.00 oz per ton  
free gold recovered  
75% loss in tailings*

006  
35  
210  
130  
340

These values were supported by a duplicate sample taken in 1951 by G. Radisics for Transcontinental Resources:

0065  
1.  
(1%)

1.25 0.065 Au  
130 1.0 Ag  
355 1.0% Zn

- Au - 0.48 oz per ton  
- Ag - 8.15 oz per ton  
- Zn - 8.30 %  
Pb - no assay

Several mining companies have examined this property ( Kennco, Newmont, Phelps Dodge, Transcontinental Resources), but none have attempted to sample the mineralization other than by chip or channel samples.

In 1956, a crew under the direction of Mr. D.A. Tidsbury conducted a diamond drill and sampling program on the property. Records of this work are not available.

In the spring of 1961 Denison Mines Ltd. took an option on the four claims and immediately staked 30 claims around the original four to provide adequate protection.

In the early summer a detailed investigation was undertaken by the author, and subsequently seven diamond drill holes were put down on the property to sample the ore.

65  
35  
325  
195  
2275

774

SCOPE OF EXAMINATION BY DENISON MINES

A detailed geological examination was conducted by the author during June 1961. A level survey was run along the valley of Bob Creek in order to produce a base map. A geological map was compiled and a program of diamond drilling laid out in order to sample the deposit.

Assessment work was carried out on one placer lease ( consisting of trenching with a bulldozer.).

A total of 521 feet using NX core was diamond drilled in July. Seven holes were completed while one hole had to be abandoned due to failure to reach bedrock.

Core recovery in the altered zones was poor. The very soft rock was often washed away by the action of the drill water. Frequent caving of the hole walls handicapped the drilling performance.

Sludge was recovered for assaying. A special sludge sampler was employed which collected only one eighth of the total sludge, which was then subsequently dried, weighted and sent for assay.

Drill core was logged, recovery measured, weighted and specific gravity determined. It was then split, crushed and sampled. Duplicate core samples were also taken.

Core and sludge assays from diamond drill hole number 1 indicate significant gold values to be present in the first 20 feet. This zone lies on strike with a vein contained in the T shaped adit ( next to D.B.H. 2 ) and from which 85 tons of mill feed was previously obtained. Chip samples taken along this vein in the adit by the author assayed as follows:

Au - 0.40 oz per ton  
Ag - 2.20 oz per ton  
Zn - 8.77 %

Diamond drill hole No. 2 however passed through this zone and failed to return any indication of gold or silver.

A similar zone was intersected by diamond drill hole No. 3. Sludge samples from 46 to 72.5 feet ( and core samples from 57.5 to 65.5 feet ) indicated the presence of significant gold. This zone lies approximately 100 feet south of the first zone and parallel to it.

Several narrow zones containing gold values were encountered in drill holes No. 4 and 5. All other holes returned no indications.

On ~~the~~ the basis of these results very little ore of economic grade is indicated. Further diamond drilling could present a more detailed picture but this additional expense does not seem justified as the indicated tonnage would still be small.

GEOLOGY

( a ) General

The Bob Creek gold- zinc property lies in a series of volcanic agglomerates and tuffs of the upper Hazelton Series (Jurassic). It is overlain to the east by basalt flows (Tertiary) and is intruded a short distance to the south by a diorite plug.

Locally the mineralized rock has been known as a "porphyry" dike, although no evidence of intrusion is present.

( b ) Detail

Two main volcanic sequences are recognized along the valley of Bob Creek.

(1) Lower Series - a repetitious sequence of pink, purple and grey breccias; a chocolate brown tuff; and a greenish tuff. Thickness about 2000 feet.

(2) Upper Series- ( Canyon Series)- light grey, rusty weathered, feldspathic tuffs, agglomerates and breccias. Disseminated pyrite is present throughout in amounts up to 3 %. Disseminated sphalerite occurs irregularly throughout in amounts up to 3 %. Thickness about 1000 feet.

The Upper or Canyon Series lies at the top of the Hazelton Series and is unconformably overlain to the east by a thick sequence of basalt flows (Tertiary). At the base of the basalt is an angular or basal agglomerate containing fragments of the Canyon Series cemented by a fine grained basaltic material.

The intrusive diorite plug is composed of a fine to medium grained light grey to green feldspar, with up to 1% pyrite present.

The lithological sequence is as follows:

- |             |   |
|-------------|---|
| Tertiary    | Basalt  |
|             | Angular (basal) agglomerate   |
|             | Diorite   |
| U. Jurassic | Volcanic agglomerate, breccia, and tuffs, (upper and lower series). |

The Bob Creek sequences form a homocline, striking north-east and dipping 30- 50 degrees south-east. Reliable attitudes are generally lacking. An outcrop of chocolate brown tuff at the confluence of Bob Creek and Buck River, strikes N 47 degrees east and dips 33 degrees southeast. A similar horizon outcrops 2000 feet upstream and strikes N 14 degrees east and dips 48 degrees east. Suggestions of this same general attitude occur throughout the Canyon Series. The mineralized fractures generally strike southeast and dip steeply north.

A possible fault may occupy the valley of Bob Creek at its lower end. The lithology suggests an apparent offset (north side west) of 200 feet. Air photographs indicate the presence of a lineament passing through this part of the valley.

MINERALIZATION AND ALTERATION

The mineralization, principally pyrite and sphalerite, with minor amounts of limonite, galena, chalcopyrite, ~~and~~ gold, and arsenopyrite, occurs as stringers and veinlets in fractures and breccia zones. Pyrite and sphalerite are also found disseminated throughout the host rock in amounts up to 3 %.

The wall rock adjacent to the stringers is intensely altered (kaolinized) and gouge is often present.

Although no gold could be identified in hand specimens, minute angular pieces can be obtained from panning the fine talus weathered out from the soft vein and alteration zones.

Some evidence of open space filling is present along the fractures. It seems quite evident that hydrothermal solutions passing along these fractures have deposited the minerals and caused the alteration to the wall rock. The source for this activity is likely the intrusion of the diorite plug, although Dr. A.H. Lang, in the G.S.C. Summary Report Part A, 1929, attributes this to a diabase dike located near the confluence of Bob Creek and Buck River.

G.N. Woollett, geologist