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ESKAY CREEK PROPERTY

Notes from visit by D.J. Aldrick
on May 8 and 9, 1991.

(See Also Attached Photo Pages)

DJA visited the property with T.G.Schroeter. Tour organized by WRS.

Arrived @ 9:30 AM via Bob Quinn (a preferable set-out point to Bell-II). We flew the proposed road route on our way in.

Met Dr. James Stewart, Chief Geologist
John Dadds, Underground Geologist
Peter Busse, Project Manager
Kel Collins, Mine Engineer

Underground Workings

The upper "decline" portal is collared at 919.0 metres elevation. The lower "haulageway" portal broke through at about 785 metres elevation, just above Mackay Creek. A portal-to-portal walk through the workings takes about 15 minutes downhill and about 18 minutes uphill.

The haulageway is nearly flat, with a slight slope towards its portal so that all workings except the 795 Crosscut drain via this portal. The company has been required to prepare a concrete "plug" for the haulageway portal in case water tests show that the drainage from underground is contaminated.

The current mine workings have several timbered areas and two major collapse zones that were bypassed rather than attempting any 'repairs'. This is bad ground in general. There will certainly be substantial collapses if the workings sit dormant for any length of time. Open pit mining may be the only safe solution. Much of the rock is so soft that little blasting will be required in some sections.

865/867 Crosscut

Our underground examination started with the 865/867 X-C which was driven to bypass the major collapse that cut off the 865 X-C last fall. The 867 was driven all the way through the mineralized Transition Zone turbidites into the hangingwall basalts.

Sampled whitish siltstone layers for thin section; are these "pyjama beds"? Sampled basalt for whole rock analysis.

In the 867 X-C there are fault planes subparallel to bedding that resemble angular unconformities. These emphasize the difficulties of correlating individual mineralized layers between holes, or between underground workings, and the likelihood of obtaining apparent thicker and thinner drill intersections from sections of mineralized turbidites that have been structurally "stacked".

830 Crosscut

The 830 X-C is probably just above the Pathfinder ore zone. There is bad ground all along this working because of several minor shears and one major fault zone that places highly altered footwall rocks against well-mineralized, but highly-disrupted, bedded ore in turbidites.

There are spectacular exposures of strongly altered footwall rocks in the 830 X-C. Varieties include:

Pseudobreccia:

Ragged pale 'clasts' in dark grey, massive groundmass. Both groundmass and 'clasts' may be pyritic, but there seems to be more pyrite in the groundmass. This rock (clasts + groundmass) is very, very soft, almost talcose. Is it wholly sericitized?

James Stewart has proposed the following process for the formation of 'pseudobreccia' alteration. Alteration develops along reticulate or near-reticulate fractures, developing a net-like pattern, perhaps in several stages. When alteration is more intense it resembles breccia (pseudobreccia) or lapilli tuff.

Massive Chlorite:

Stratigraphically overlying the pseudobreccia is a thin zone of massive chlorite alteration in which just a few pale clasts are preserved. The chloritic rock is greenish black and composed of massive sheaves of chlorite similar to the footwall rocks at Jerome and Anzalcollar. This is probably Mg-chlorite.

Pseudochert:

A massive, bluish, translucent rock with a sub-conchoidal (or luttic) fracture. It looks like chert, but is very, very soft. perhaps this is also wholly sericitized rock? Not sure. Blue colour is quite distinct.

James Stewart commented that massive sericite is translucent, waxy or 'cherty' in appearance, and may occur in pastel shades of tan, green, pink, yellow and blue. It may look like jade.

The 830 X-C is still in the 21B-South ore zone. It consists of interbedded turbidites and sulphides, but here the ratio of ore beds to siltstone is about 1:1. Sphalerite is the dominant sulphide as always. Here, the ore is copper-poor, but spectacularly gold and silver-rich. This ore is also Sb-rich. Since little or no copper is present to form tetrahedrite-freibergite, the minerals stibnite and native silver have formed instead.

At the fault which cuts off the ore in the X-C, the mineralized turbidite beds are horizontal, and are exposed continuously from the floor to the back. Moving towards the end of the crosscut, the beds begin to undulate and then contort wildly until they lie vertically, like isoclinal folds with vertical axial planes. Sulphides are definitely remobilized into local axial planar cleavage, and visible gold has been noted only along these cleavage planes, despite the high tenor of the ore everywhere in this X-C. (Not only is gold remobilized, but the grades may be enhanced by this process).

795 Crosscut

The 795 X-C ramps down into the footwall rocks to provide underground drill stations for testing the S.O.B. ore zone (Hole 109 style mineralization) but does not actually cut into this ore zone. This X-C is the lowest working in the mine and has been allowed to flood.

General Comments

U-Pb Zircon: With Dr. Stewart's encouragement Tom Schroeter and I have collected two bulk samples (~40 Kg each) of the Footwall Rhyolite rock from two locations in the main decline for zircon separation and U-Pb dating by the MDRU-UBC research group. These were shipped to Vancouver on May 22.

Spherulites: James Stewart has recognized good spherulites in core. They do not look like textbook examples, but are spherulites nonetheless. Many are full of sericite now, with only thin outer rims of silica. They have lost their radiating internal fabric. Some are very large, up to 3 centimetres in diameter. Some are 'crowded' and therefore have become distorted while growing adjacent to other expanding spherules.

Bulk Sampling: Corona/Prime is collecting and shipping 9 bulk samples from underground, each approximately 1 tonne. 7 are from the 865/867 Crosscut (X-C); 2 are from the 830 X-C. Both represent the 21B-South style of bedded mineralization. These samples were shipped out by the time we left the property.

Final comment: The talks I hear persuade me that this is a V.M.S. deposit. The rocks I see suggest an epithermal deposit. I am still undecided.