

Harris
EXPLORATION
SERVICES

MINERALOGY AND GEOCHEMISTRY

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Job #85-49

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Report for: Murray McClaren,
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Summary:

The sample, as submitted, consisted of 3 pieces of mineralized material. These were arbitrarily designated B-1, 2 and 3.

Each piece was cut, and half submitted for geochemical analysis for Au and Ag in order to find which piece carried the highest values and would therefore be most likely to contain observable Au under the microscope.

Analytical results were as follows:

	Ag (ppm)	Au (ppb)
B-1	885	2,160
B-2	580	1,510
B-3	605	54,000

B-3 was selected as the best candidate for petrographic study and a polished thin section prepared from it.

The results of microscopic examination by transmitted and reflected light are given in the attached description.



J.F. Harris Ph.D.

Sample B-3 (Slide 85-136X)

Estimated mode

Quartz	12
Sericite	2
Arsenopyrite	20
Boulangerite	20
Ruby silver	trace
Chalcopyrite	trace
Various oxidized secondary minerals	46

This sample is a strongly oxidized portion of sulfide-rich material, showing a banded structure probably indicative of vein origin.

The sulfides are arsenopyrite and boulangerite (or some similar Pb-Sb or Pb-As sulfosalt) in varying degrees of intergrowth. Both form more or less massive, compact, finely granular aggregates in which the gangue component consists of quartz as individuals, clumps and lines of euhedral crystals, 0.2 - 1.5mm in size, and irregular interstitial pockets.

For the most part the two sulfide components form well-segregated bands and patches but there are some areas where boulangerite forms acicular inclusions in a matrix of arsenopyrite, and some where arsenopyrite grains form ragged islands in boulangerite, sometimes with the arsenopyrite marginally corroded by the host phase and packed with small inclusions of it. The overall impression is that the two minerals are paragenetically contemporaneous.

It is possible that there may be more than one sulfosalt mineral present. The boulangerite areas often show a granular fabric in which are set coarse strongly acicular crystals. These sometimes seem to exhibit slightly different colour and polishing hardness from the granular matrix, but this may simply be a function of orientation.

The portion of this sample submitted for analysis ran about 600 ppm Ag. This level of Ag is readily accounted for in the section by the occurrence of a few streaks and patches rich in a ruby silver (probably proustite) in very fine-grained intergrowth with a low reflectivity mineral - probably a secondary product.

Despite the analysed content of 54,000 ppb Au (=54 ppm =1.5oz/ton), no Au-bearing minerals could be identified in the section. This (combined with the fact that the other two specimen pieces gave low assays, of around 2,000 ppb) suggests that the Au in this ore is probably distributed in a highly irregular manner.

The sulfides in this sample show strong alteration to a heterogenous and probably complex mixture of yellowish hydrated oxides, Fe arsenates, etc. Limonite is not prominent.

These secondary minerals form veins and networks cutting the primary sulfides and sulfosalts and, with increasing intensity of development, grade to banded, compact aggregates through which are scattered tiny remnants of arsenopyrite, and areas in which no sulfides survive and the secondary minerals are full of small angular remnants of quartz or patches of fine-grained quartz-sericite intergrowths.