

VANCOUVER

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To: K. A. MacLean

From: M. D. Kierans

Tonnage factor contour plan

D.A. Barr's paper on "Chappelle Gold-Silver Deposit, B.C." states that gold is associated with pyrite and that pyrite constitutes 1-10% of the vein material. The regression analysis memo written earlier indicates that there is a relationship between silver content and S.G. and a weaker relationship between gold content and specific gravity. It is suggested that sulphur assays be made on the "pulp" checked off in the memo supplied to you earlier. The writer believes that sulphur and silver content would show a useful correlation. In any case there is reasonably good physical evidence now for using a tonnage factor which varies for each block according to silver grade.

In addition the attached contour plan indicates that there is a structural valve to the "assumed" correlation between grade and tonnage factor. The enclosed transparent overlay shows a contour plan of the "A" vein for T.F.'s. Actually, it is a longitudinal projection rather than a plan. However, because the "A" vein dips from 80° to 70° (and with dip reversals in places) the distortion is slight (see above paper). Value

The plan indicates a series of alternating thrust and normal faults crossing the vein at about 100' intervals. These are deduced to dip east (on the projection) at the west end of the vein and steepen gradually to vertical and slightly west and the east end of the workings. Movement on these faults is about 50' vertically. The amount of movement appears to increase going eastward on the vein. The faults between sections D & E and E & F are thrust faults with apparently a large throw vertically because the contours between these faults are very different from blocks to the west and east. The movement could be several hundred feet. The direction as shown is very uncertain. The faults E and W of reference line 54+00 (at east end of projection) show apparently similar movement to those cross-faults at the west end of the vein.

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From this pattern one could expect similar cross-faults going east on the vein, but because there appears to be a rake westward of about 15-20 degrees westerly then exploration is more likely to be productive to the west. This is because the eastward extension of the raking "ore" zone would have been eroded. This conclusion is similar to one submitted to you after earlier work.

It is my impression that the ore is controlled by a favourable horizon which dips west within the rock pile and that where tensional faults cross this favourable horizon ore deposition occurs as pyritic gold-silver ore. One rather doubts that in this rock sequence there would be only one favourable horizon. In addition one could explore laterally from "A" vein hoping to find "A" vein trends cross-cutting extensions of the tensional faults within this favourable rock sequence, i.e. the one shown on the projection submitted.

M. D. Kierans

MDK/tjs