

MINNOVA

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MEMORANDUM

DATE: November 29th, 1991
A TO: John Purkis
COPIES A COPIES TO: Alex Davidson, Gary Wells
DE FROM: Ian Pirie
SUJET SUBJECT: **Fairfield Minerals Elk Property**

As you are aware, Fairfield Minerals have approached us with regard to their Elk project. They are interested in some sort of deal which would involve funding commitments from us in return for custom mill feed for Samatosum. A recent press release announced reserves now standing at 340,000 tonnes of 22.2 g/t Au using a 10 g/t cut off over a 2m minimum width.

Gary and I have reviewed the data but because of weather conditions we have not been able to visit the property. However, since they whole core sampled all mineralized material for assay, it is unlikely that much information on the mineralization could be gained there anyway.

The first thing that I considered in reviewing the data was whether or not the mineralization would be compatible with the Sam mill. It occurs in discrete quartz veins rarely more than 25 centimetres wide hosted in quartz diorite. Within these veins, sulphide averages 10% or less. Diluted to a mining width this would imply a sulphide content of only 2% or so.

In addition, gold appears to occur mainly as free grains. In polished sections gold has been recognized principally as 0.04 - 0.23mm long patches in fractures in pyrite. Less commonly it appears as electrum grains 0.003 - 0.008mm in size within pyrite grains. As a result I would conclude that this is not compatible with the Sam mill without significant modifications to the circuit.

Given this conclusion, the second question to be asked is does

this meet Minnova's target criteria? The answer is definitely no. The current reserve indicates a gold content of some 220,000 ounces and while there is still room to expand this, the narrow, poddy nature of the deposit does not make it a very attractive target. Of the 10 'shoots' so far identified, the only with a reasonable chance of being minable is what Fairfield call the "Mother Shoot" which contains around 100,000 tonnes at 30 g/t Au.

I have used the above 100,000 tonnes in the following table to see if there is any point in pursuing this property as a source of mill feed for Sam despite the circuit modifications required.

Table 1.

Assumptions:

1. A gold con can be produced
2. 500 tpd max
3. 80% recovery, 90% payable
4. Au = \$370; exchange = 1.15

Grade and tonnes:	100,000 tonnes @ 30 g/tonne	
NSR:	\$295 / tonne	
Costs:		
milling	\$32 / tonne	(incl. admin & enviro)
mining	\$60 / tonne	(narrow, shallow dip)
trucking	\$25 / tonne	(guestimate)
This leaves	\$238 / tonne	or \$23.8 million to cover

all capital costs including mill modifications and mine development.

A DCF analysis using these figures and a 15% cost of capital indicates a NPV of \$11.1 million for the project and a Cash Flow of \$15.4 million. On a \$5 million capital investment this would give a rate of return of over 300%.

Of course, these figures are all for 100% of the project which is not the case. They do, however, suggest that there may be room for some sort of arrangement to be made with Fairfield. It is

interesting to note that if they had to start from scratch by building a mill and tailings pond and getting the necessary permitting a \$25 million capital cost (roughly equal to the projected total cash flow) would not be an unreasonable estimate.

The question now is whether possible rewards for an extra 7 months life at Sam are worth the risk and effort.