822784

NOTES

TILLICUM PROSPECT

DATA REVIEW

Location: 10 km E. of Burton, 30 km SE of Nakusp, B.C.
NTS: 82-K-4

Ownership

Esperanza Explorations Ltd./La Teko Resources Ltd. (up to 51%). Underlying option to prospectors involves total cash payments of $165,000., 3% of N.S.R. to maximum of $3 M, with 2% on further $2M and 1% on further $1 M.

Setting

The main prospects are within the 800m wide embayment of a Cretaceous quartz diorite stock and peripheral to an older diorite porphyry which is ovoid, some 300m x 800m in area. The intruded rocks are well metamorphosed sediments and volcanics of upper Paleozoic age. This setting is somewhat similar to that of the Hedley camp, but carbonates are lacking, the sediments here comprising quartzites, arkoses, and siltstones.

A single Pb isotope dating suggests that the mineralization is Jurassic.

Data:

The data reviewed (principally the 3 volume 1984 Report by John (Jack) McLintock) is clearly presented and looks honest. The obvious exploration bias has been pragmatic, directed towards thorough sampling rather than towards geological theorizing. The emphasis has been on geological mapping and geochemistry, wilth only minor geophysics (magnetic).

Nature of the Prospects

The prospects located to date are all clearly tabular and stratabound, associated with sedimentary strata that are silicified and K-feldspar and/or Ca-Mg altered. The skarns carry disseminated (and more rarely massive) Fe, Pb, and Zn sulphides. One lesser prospect, the GRIZZLY, has up to 5% combined Pb-Zn over a 6' width, and up to 1.6% WO_3 (a grab sample).

Precious metals appear to be bi-modally distributed, the HEINO-MONEY and EASTRIDGE zones being definitely Au rich (Ag:Au= 4:1 to 1:2) and the SILVER QUEEN and ARNIE FLATS being Ag rich. The latter are more distal to both of the larger types of intrusive body , so there is evidently a regional zoning.

Local Ore Controls

1. Stratigraphic
2. Proximity to diorite porphyry
3. Skarns
4. Silicification?

There is no reported relation to faulting or folding. Primary bedding is stated to be parallel to the metamorphic fabric. Subtle variations could of course, as at Hedley, turn out to be important. No "ore shoot" rakes have been established.

Specific Prospects

HEINO-MONEY:

This prospect is at a 2150' elevation, following the nose of a ridge (silicification?). It is an auriferous skarn (Au:Ag=2:1 to 1:2) with a relatively uniform width (6' to a ;pcal extreme of 26'). The average of 91 trench samples over a 300' length is 1.7 or 2.9 oz/t. Au, depending on whether or not the extreme high of 13 oz/t. is cut to average.

#@350 US.
#8.4M Can.

Drilling beneath this area has by contrast yielded values averaging approximately 0.6 oz/t. for some 30,000 tons of undiluted ore. Obviously there is surface enrichment, though silicification (contributing to the ridge) could have enhanced the apparent surface vs. underground results.

A 250' adit encountered one high grade pod 100' below surface with an extreme high assay of 40 oz/t. Au, and an average over a 45' length of about 1 oz/t.

Geochemical and lithologic restrictions limit the strike length of the HEINO-MONEY Zone to not more than about 600', a good portion of which has been explored.

EAST RIDGE: what about the underground test done in 1984 ?

25 diamond drill holes have delineated a zone +1800' long, +200' deep, and up to 100' in width. It is quoted as having an inferred open pit potential of 5 m.t. at 0.05 to 0.07 oz/t. Au with a favourable stripping ration. The 5 m.t. figure requires a 700' depth over about a 3000' length. This stripping depth seems doubtful. It would begin with a ratio of about 3:1 and increase fairly rapidly with depth. The Au bearing skarn dips 50° to 60°, only subparallel to the topographic surface which is 45° near the surface expression of the zone and flattens further out.

.070/t
III
#163M Can.

There do not seem to be any enriched pods in this zone, the highest assay in the 25 intersections being 1.0 oz/t. Au over 4.0'. The lowest intersection on the other hand is 0.01 oz/t. over 125.4'. There is no truly barren material throughout the 1800' drilled (see attached list).

≥ .05 mtxns avg .07/33'
≥ .03 < .05 " " .035/34 1/3'
both " .05/33 1/2'

1800 x 33 x 200' / 10 = 1.2M tons
x 700' = 4.2M tons

A further factor here is that metallurgical testing is being carried out to ascertain the possibility of heap leaching. Initial results suggest a 65% recovery. Experiment continues with various degrees of comminution of the ore.

Two nearby zones, the #2 and the BBB-BLUE, look similar but have received little attention. On first view, assays and widths are lower.

SILVER QUEEN:

Somewhat lensy, variable grade Ag has been traced by trenching and drilling along a 3000' length, with mineralized horizon up to 30' thick, and local grades up to 11.7 oz/t. Ag over 20'. Two sub areas produce grades in excess of 3 oz per ton over 650' // and 300' respectively, but most of the zone averages a little less. The zone dips at 45° relative to a topographic surface of 0° to 15°.

ARNIE FLATS:

Trenches along a 650' length of intensely silicified, potassicly altered metasediments have yielded up to 7.6 oz/t. Ag and 0.02 oz/t. Au over a 29' width. The average of all trench samples is 5 oz/t. Ag and 0.018 oz/t. Au, so the mineralization appears to be quite consistent.

Distribution of Grades

Grades to date - and there are enough tha they might be broadly representative of the property potential - are in the precise range where the decision of cutting or not cutting erratic highs is quite crucial. Au highs are certainly extreme over a 1m sampling interval but may average out over several m as the adit sampling of the higher grade HEINO-MONEY material suggests.

An average of 5 muck samples from the last 45' of this adit is 0.95 oz Au/t., while 9 back chip samples average 0.76 oz. Face chip sampling from the same area can be made to yield an average of anything from 0.06 to 3.6 oz/t. depending on inclusion of the extreme high values.

A comparison of drilling vs adit results is also a little disquieting:

	Vicinity of D.D.H. 82-16	Vicinity of D.D.H. 82-2
Muck	0.94 oz/t (2 sas.)	0.001 oz/t (1 sa.)
Chips	0.012 oz/t over 5.7' (2 sas.)	0.001 oz/t over 5.7' (4 sas.)
D.D.H.	1.2 oz/t over 6.4'	0.63 oz/t over 0.5'

Obviously high grade pods such as the above (1750 tons if depth=length) are going to be missed unless drill hole spacing is much less than 50'.

Another aspect of grade distribution is that in 14 plotted grade vs width values there is no relation whatsoever between these parameters.

Economic Potential

Despite the above comment on drill spacing, there has been enough overall drilling on the property to suggest that such high grade pods are rare. Pehaps one or two more might be uncovered with prolonged exploration. Also the quantity of assaying to date is large enough to reasonably establish the range in values. Thus we could guess at a potential (not without hazard of course) for the property of say:

1) 5 to 10,000 tons of 1 oz/t Au, of which one third may be open-pittable

2) 100,000 tons of 0.6 oz/t Au, with ore widths averaging 7', and mainly requiring underground mining

3) 3,000,000 tons of material averaging 0.06 oz/t Au, if stripping of the EAST RIDGE Zone to 500' down dip is possible.

4) 1,000,000 tons of material averaging 3 oz/t Ag, if stripping to a depth of 150' is possible (SILVER QUEEN)

5) Contributions of similar material from the apparently smaller zones. Bonnie Fleats.

Since there are no geological inferences for searching out higher grade material, and no immediate opportunity for developing any, our decision must be based on:

1) The above figures

2) The predicted price of Au

3) Predicted mining costs

4) Metallurgical success vis-a-vis heap leaching.

Two advantages of the property have not been mentioned. These are a) that drilling is relatively cheap i.e. access is via a quasi-dip slope in most areas and b) that high grade material worth perhaps $2M in place could be skimmed off the surface on the HEINO-MONEY Zone to help finance exploration. The 1984 report recommends a $600,000 program for 1985.

Conclusion

This is certainly a well mineralized property and it would be a joy to own, but I feel some hesitation in recommending a deal, based I think on the quantity of sampling to date and relative uniformity of environment, widths, and to some extent grades. New geological factors are possible, but unlikely, and are probably not sought by the present operators, so the decision is essentially economic based on the aforementioned potential.

December 19, 1984.

David Arscott