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August 4, 1977.

Mr. J.N. Hembling
President
Tournigan Mining Explorations Ltd.
#704-535 Thurlow Street
Vancouver, B.C.

Dear Mr. Hembling:

Herewith is a summary of my opinions regarding the possible reserves of barite that might be present on the Atan Lake Property. Maps showing the occurrences of barite in the North Zone and on Barite Hill are attached.

My report on the 1977 drilling and geological mapping program, which will provide a more detailed description of the barite occurrences and their economic potential, will be submitted about the end of August.

SUMMARY

Possible reserves to a depth of 15m of high quality barite on the Atan Lake Property are 7,500 tonnes to 11,500 tonnes. Exploration to more accurately define the reserves in the known barite occurrences and to discover more occurrences is warranted.

NORTH ZONE

Two occurrences in the North Zone appear to contain mineable widths of barite. These are designated 1 and 2 on Map 1. Another occurrence, designated 3, might possibly contain mineable widths of barite.

Occurrence 1:

This occurrence is exposed in a bulldozer trench excavated in 1969. The walls of the trench are now slumped and the precise shape of the surface exposure is masked. The barite body is 12m long and, judging from the present exposure and from photographs of the fresh excavation, it appears to be about 1m wide and exposed for a depth of about 1½m. The body appears to be tabular in shape and to dip steeply

northward. The surface exposure comprises essentially 100 per cent white, very coarse-grained barite. A composite sample of this body taken in 1969 that had a S.G. of 4.55 and contained 23ppm water soluble Ca was, according to your verbal communication, composed of 7 samples of about 100 lbs. each.

The dimensions and purity of this body beneath the present exposure can best be determined by drilling. Whereas it is likely that the dimensions vary with depth, there is no indication from the available data whether they increase or decrease.

For the purpose of estimating the possible tonnage that may be readily accessible it is assumed that the body is 12m long, 1m wide and extends to a depth of 15m. The calculation is limited to 15m because this is the depth to which an open pit with a favourable ore to waste ratio could be excavated in two benches using small, inexpensive equipment. Assuming the barite has S.G.= 4.3 the possible reserves in the North Zone 1 occurrence are approximately 770 tonnes.

Occurrence 2:

This occurrence appears to be a tabular body lying parallel to bedding. Bedding in this area dips 45° southwestward.

The body was intersected in diamond drill holes 73-4 and 77-5. In DDH 73-4 the true thickness of the body 10m beneath the surface is approximately 1m. In DDH 77-5 the true thickness of the body 5m beneath the surface is approximately 3m. The two intersections are about 20m apart along strike of the body. Bedrock is not exposed where the body projects to surface, but 5m to 10m in a 'down-ice' (northeast) direction from the surface projection of the DDH 77-5 intersection much barite rubble on top of bedrock was exposed by stripping.

The intersection in DDH 77-5 consists almost 100 per cent of white, very coarse-grained barite. It is identical in appearance to the barite in North Zone 1 occurrence. The intersection in DDH 73-4 was logged as "mainly barite".

For purposes of estimating the possible tonnage present on this occurrence it is assumed that the body is 30m long (i.e. that it extends along strike 5m northwest of DDH 73-4 and 5m southeast of DDH 77-5), that it extends downdip to a depth beneath surface of 15m (a convenient depth to which to mine), that it's average thickness is 2m and that it's S.G. is 4.3. On this basis 3,870 tonnes are possibly present in the North Zone 2 occurrence.

The true dimensions and grade of this occurrence would have to be determined by drilling and stripping.

Occurrence 3:

In DDH 73-3 0.6m of "massive, white, coarse-grained" barite was intersected 12m vertically beneath the surface. Bedrock is not exposed where this intersection projects up the dip of bedding to surface, but 35m northwest almost exactly along strike from the surface projection there is an outcrop of dolomite containing numerous pods of very coarse-grained white barite. It is probable that a zone containing barite lies parallel to bedding in the vicinity of occurrence 3.

The North Zone 3 occurrence should be drilled and stripped to determine if mineable bodies of barite occur along it. Considering the size of the zone, it could easily contain a body of 1,500 tonnes.

BARITE HILL

Discontinuous outcrops of white, very coarse-grained barite occur in a 30m long zone trending 030° across the top of Barite Hill (Map 2). Several other more widely spaced outcrops of similar barite along this trend extend the zone to about 55m.

This zone should be drilled and hand-trenched to determine it's continuity, dimensions and grade.

The apparent minimum dimensions of this zone, assuming continuity between the close-spaced outcrops, is 1.5m thick and 30m long. Assuming it extends to a depth of 15m and that the S.G. of the body averages 4.3, there is possibly about 2,900 tonnes present. If the body is 55m long there could be an additional 2,420 tonnes present.

POSSIBILITY OF DISCOVERING OTHER OCCURRENCES

The North Zone, and to a lesser extent Barite Hill, contain small occurrences of barite apart from the main occurrences described above. It is possible that investigation of these small occurrences might lead to the discovery of mineable deposits.

Barite on the Atan Lake property occurs as veins cross-cutting bedding and in strataform bodies. In both cases there appears to be a spatial relationship to strataform and/or cross-cutting bodies of chert. These chert bodies occur in a northwesterly trending zone that can be traced by scattered

outcrops and slight to distinct topographic highs a distance of 1,500m across the property. This entire zone warrants prospecting for barite.

CONCLUSIONS

1. The main barite occurrences in the North Zone and on Barite Hill warrant exploration by drilling and stripping. In my opinion there is a reasonably good possibility, by mineral exploration standards, that these occurrences contain 7,540 tonnes to 11,460 tonnes of high quality barite within 15m of surface.

Possible reserves of barite to a depth of 15m are as follows:

North Zone	(A)	(B)
Occurrence 1	770	
Occurrence 2	3,870	
Occurrence 3		1,500
Barite Hill		
Main Zone	2,900	
Extension of main zone		<u>2,420</u>
	<u>7,540</u>	3,920

(A) Based on drill hole data or surface exposures and geology.

(B) Based mainly on geological speculation.

2. The numerous small occurrences of barite in the North Zone and on Barite Hill warrant investigation by hand-trenching or stripping and careful geological mapping.
3. There appears to be a stratabound zone characterized by chert bodies and containing barite occurrences that extends between and includes the North Zone and Barite Hill. This zone warrants exploration for barite.

Sincerely,



W.G. Smitheringale

WGS:lp.
Encl.