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MICROFILMED

EXTRACTS FROM REPORT BY

QUEST EXPLORATION
PTY. LTD

dated 30.12.1966

Copper King mine
by
Quest Exploration 30/12/66.

EL 12/65?

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EXTRACTS FROM REPORT BY QUEST EXPLORATION PTY. LTD DATED 30 DECEMBER 1966

3. GENERAL APPRAISAL OF AREAS

(a) Copper King Mine, Tasmania

The Copper King Mine is located near the village of Cuprona adjacent to the Blythe River and about 10 miles by first class road south of Burnie in Northern Tasmania.

The history of the mine is not well recorded, the only report of any importance being that in Mines Department records by W.H. Twelvetrees dated July, 1905.

Productive operations were sporadic between 1905 and 1917 and were confined to development and mining only of the high grade copper oxidised ores for shipment overseas. It is understood that Mounta interests were involved in the field in the early stages.

(i) Leasing position

The original lease covered 62 acres and the present operating syndicate applied for this lease. The Department of Mines, Tasmania has granted a lease of 28 acres which contains the main workings and ore body so far as is at present known. The balance of the original lease to the North of the lease now granted, is contained in a blanket exploration licence held by Pickands Mather & Co.

The ground to the South, East and West of the 28 acre lease granted is part of a Tasmanian Government mineral reserve, and provided an operation is started on Copper King there is every likelihood of being able to extend the area held into the mineral reserve and also to the North when Pickands Mather reduces its present exploration areas.

See Appendix 'A' for plan of lease.

(ii) Geology

Copper mineralisation is present in a shear in Silurian slates which strike generally in a north easterly direction. Twelvetrees records that "the lode material is a hard massive quartzose rock with veins of copper bearing matter at intervals." At other points, he records graphitic slates carrying copper pyrite as well as iron pyrites.

The line of lode was noted by Twelvetrees to be of considerable length and width of around half a chain. He suggests a strong pyritic lode at depth.

(iii) Old Workings

The operating syndicate has opened out several old adits in the oxidised zone and above creek level, and is continuing with picking up drives from these adits. Evidence of copper mineralisation, the oxides, carbonates and sulphides, are present in all of these entries.

The original shaft sunk to 150' below creek level has been filled with mullock and timber. A smaller shaft 100' to the north has been uncovered and cleaned out and evidence of good copper values has been shown by the syndicate.

(iv) Ore Potential and Grade

The old workings show a length along strike of around 500' and it is probable the old mine is open at both ends. Applying Twelvetrees width of 30' then the lode channel carried within its length 1200 tons of lode material per vertical foot.

Ore shipped in the past was hand picked and averaged 15% cu. (Verbal reports from old hands are that much ore was picked underground and large tonnages used as back fill all carry copper).

A grade of 15% would be essential for shipment in the years 1905 - 1917.

No sound conclusions can be reached at this stage as to the average grade of ore over 30' wide. For the purpose of this report a grade of 3% is applied.

4. PLAN FOR TESTING AND DEVELOPMENT OF THE DEPOSITS

(a) Copper King Mine, Tasmania

The plan is based on proving and developing a minimum of 100,000 tons of 3% recovered grade ore in the initial stages.

It is considered that ore remaining above creek level in the old Mine is not important, but there is, without question, some volume to be exploited.

On this basis, diamond drilling below creek level to intersect the orebody at a depth of around 120' vertical is the obvious course.

(i) Testing and Development Costs

This would consist of a full survey of the area and plotting of all the old entries to the Mine. Geophysics would provide much information of the selected strike length and possible extension.

With this information, 5 holes to cover the 500' of strike would be laid out to intersect at 120' below creek level. Topography would dictate this to some extent.

Cost of this programme is estimated at $46,000 - in general terms equal to 50 cents per ton of ore indicated.

Development of the mine for production can be simplified by enlarging the present small shaft and equipping for a production of 200 tons per week or 10,000 tons of ore per annum. This concept is, and this should be clearly understood, centred on bringing a relatively small mine to production with the lowest capital cost, with the view to further development of the mine to greater production using profits from the first operation.

(ii) . Cost of Shaft Sinking, Equipping, Underground Development

This is estimated at :-

120' shaft sinking ..	$15,000
Winder	15,000
Underground Development driving and cutting in ore	10,000
Overheads and contingencies	10,000
	$50,000

Ore Treatment - basis 200 tons per week.
= 5 tons per hour.

(iii) Plant Cost Estimates

Crushing and grinding plant	$20,000
Classification, flotation section	20,000
Power and water	10,000
Buildings and ancillaries	8,000
Overheads and Contingencies	25,000
	$83,000

The above assumes usage of some selected secondhand units and carefully controlled establishment costs.