

871A TRANS.

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WOODSTOCK COPPER PROSPECT (LEASE 329P/M - 32 ACRES)-NATONE

Reports on the above workings have been written by Q.J. Henderson (Typewritten report 29.7.41) and a supplementary note was written by P.B. Nye on 11.11.41. In the present report there is need only to describe the additional work since the above were written, to record any new data and to discuss this fresh information from a mining standpoint.

GEOLOGY:

The Cambro-Ordovician rocks which form the bedrock are interbedded black shales and bleached quartzites which are folded into a number of anticlines and synclines trending east of north. These rocks outcrop chiefly in the bottoms and sides of the valleys as the higher ground is covered by basalt flows.

The gossanous outcrops which indicate the presence of the copper lodes occur as isolated patches along a line trending in a general north-easterly direction. Assays of these disclose as a general rule the presence of copper with a little silver and gold. The isolation of these gossanous outcrops is a feature which should be stressed as it suggests lack of continuity of the ore bodies and their development as short discontinuous shoots.

MINING:

Since the previous reports, most of the prospecting has been carried out in No. 2 and No. 3 Prospects, and this work is shown on the plan. A little surface work has also been done west of No. 2 Prospect, on the opposite bank of the creek, without however disclosing anything of note.

No. 2 PROSPECT:

The drive to the North East has been extended to a total distance of 55 feet from the shallow shaft just beyond the entrance to the cuddy. The short cuddy to the north for 7 feet pierces the lode and shows its narrowness at this point. At 16 feet from the shaft the short northerly drive is 16 feet long and the lode is exposed for the first 10 feet. The drive to the south is now mullocked so that the full width of the lode could not be seen at this point. The 10 foot-width of lode exposed was chip samples and this yielded 2.4% Copper. This agrees very well with Sample No. 2 of the previous report which was taken from about the same position and which assayed 1.5% Copper.

The North East drive continues on for another 39 feet, and at 27 feet, there is another crosscut north 30 feet in length. The lode is exposed here over a length of 20 feet, and this width was chip sampled, and when assayed, yielded 1.5% Copper. It should be noted, however, that the crosscut is oblique to the reef, which shows a marked curve to north.

The east crosscut measures 85 feet from the shaft. At 29 feet on the south side is a syncline, at 57 feet an anticline, while in the end there are corrugated beds with a very flat westerly dip. The drive itself is along a fault which has a very small displacement. Apart from the few thin spurs on the western side of the anticline no lode was intersected. These spurs match the surface outcrop on No. 1 Prospect and proves the small extension in depth of the lodes at this point.

Developmental work in No. 2 Prospect has proved the presence of a lode which widens from four feet to about fifteen feet wide in a northerly direction. The length of this are shoot has yet to be determined. The shape of the lode so far exposed is suggestive of the S-curves of sheared rocks, and it may be that the prospected portion is the southern half of a lens shaped ore body. The following are the departmental records of the assays on portions of this lode:-

<u>NO.</u>	<u>SAMPLER</u>	<u>PERCENTAGE COPPER</u>	<u>WIDTH OF SAMPLE</u>
2)	Q.J.Henderson	1.5	4'6"
3)		2.3	3'6"
N3	P.B. Nye	3.1	7'6"
T1)	D.E. Thomas &	1.5	10'0"
T2)	Q.J. Henderson	2.4	20'0"

It is recommended that the drive should be continued on this lode to determine the length of the ore body. If this discloses sufficient length, attention could be devoted to testing at depth. When this information has been obtained, the value of this lode could then be assessed.

NO. 3 PROSPECT:

The adit has a south easterly trend and has been extended a further 94 feet since Nye's inspection.

The first branch goes south for 23 feet and then swings to the South South East for 38 feet. Several small shears are exposed in this drive and one of these near the face has a North South strike and a westerly dip of 70°. This is probably the continuation of the fault and lode seen in the workings just to the north. As can be seen from the plan, much of this driving has been unnecessary as the same results could have been obtained by driving south on the lode from the main adit.

A continuation of this ^{thin} ore body has been driven on the north side of the adit, but this could not be checked as it is now full of mullock. South of the adit the same reef has been prospected in a southerly direction, with extension both east and west on the mineralised black slates.

A sample by Nye from this lode yielded 2.9% Copper. The reef is too small to justify much expenditure on further prospecting.

18 feet to the South East along the main crosscut a fault dipping 75° West has been intersected. This is not mineralised but is apparently an oblique shear from the fault system of the lode. Beyond this point the beds in the main adit exhibited flat dips, but near the face there is a flat anticline and some brecciated country. The face of the drive is under some mineralisation, there is no extension in depth of the ore body. A great deal depends on the dip of the faults. If these dip east, the end of the drive has not reached them. If this adit was extended another 10 feet the matter could be placed beyond any shadow of doubt.

SUMMARY AND RECOMMENDATIONS:

The gossanous outcrops extend along a belt of fracturing which trends North East. Along these fractures copper lodes, with a little gold and silver, have been formed. The occurrence of these gossans in isolated patches points to lack of continuity of the ore bodies and their development as lenses at the intersection of the fracture systems. This is corroborated by the exposures in the underground workings.

An ore body has been proved to exist in No. 2 prospect, over a length of 60 feet, and gradually widening from 4 feet to 15 feet in a northerly direction. It is recommended that the drive should be continued on this to determine its full extent. When this has been done attention could be given to its extension in depth. Until this information is available, no valuation of this property can be attempted. The developmental work has proved the existence of an ore body and the prospects are sufficiently promising to justify the continuation of prospecting work to determine its extent.

D.E. Thomas, D.Sc.,
GOVERNMENT GEOLOGIST.

Q.J. Henderson,
FIELD GEOLOGIST.

Department of Mines,
HOBART.

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