

REPORT ON MR. R.L. SLIDE'S MINE AT MARA.

## LOCATION AND ACCESS.

This mine is situated on land which was last held under mineral lease as 31P/6 acres but which is now private property, part of it being on the 49 acres charted in the name of C. E. Walsh and part on the 88 acres in the name of PlW. Edwards.

The railway to Herrick passes through this land, Branxholm station being two miles to the south and Mara half a mile to the north. The road from Branxholm to Warrentinna passes immediately to the west of the mine.

## TOPOGRAPHY.

The surface of the land in the vicinity of the mine is very flat and occurs at an altitude of about 600 feet above sea level. To the east it connects easily with the alluvial flood plain of the Ringarooma River, 20 chains to the east. To the west the ridge forming the water shed between the Ringarooma and Boobyalla Rivers rises to altitudes of 900 to 1000 feet above the sea. In the immediate vicinity of the mine therefore all underground workings will have to be carried out by means of shafts. If the lodes continue to the north, underground work by means of adits would be possible.

## GEOLOGY.

With the exception of the recent alluvium along the Ringarooma River to the east, the whole of the surface in the immediate vicinity of the mine is occupied by slates and sandstones which are referred to the Cambro-Ordovician system. These rocks extend to the east and form the divide running in a general north and south direction between the Ringarooma and Boobyalla Rivers.

Where they outcrop, the rocks of this system are light, buff coloured slates and sandstones. The same rocks from greater depths, such as mine workings, are much darker in colour and are generally greyish. Quartzites are also exposed at greater depths. The light coloured nature of the rocks and the absence of quartzites at the surface is due to the superficial weathering which occurs to shallow depths.

The slates and sandstones generally occur in comparatively thin layers interbedded with one another, but thick zones of each also occur. The slates are generally thinly laminated, but there is no evidence of cleavage distinct from the bedding planes.

The average strike of the strata is  $335^{\circ}$  and the dip to the southwest at angles of  $75^{\circ}$ .

In the cutting immediately to the south of Mara station an anticline is visible, and the east-dipping strata on the eastern side continue to the north of Mara station.

The slates and sandstones are similar in every respect to those which form the country rock in all the goldfields of north-eastern Tasmania.

#### MINE WORKINGS

Quartz veins occur along two general lines which have been designated the No.1 and No.2 lodes respectively. At the southern end of the No.1 lode, the No.1 shaft was sunk to a depth of 20 feet and 7 tons of quartz obtained. A trench along the lode extends some distance to the north. Further North the No.2 shaft has been recently sunk to 16 feet on the eastern side of the lode to cut it at depth which, however, was not effected. A trench to the west was successful in exposing the lode.

Several other trenches have been dug further north, some of which exposed a small quantity of quartz, while others have exposed only slates.

The No.2 lode runs a little north of east from the No.2 Shaft on No.1 lode. The No.1 shaft on the No.2 lode is a shallow vertical one connected with some old stopings. The No.2 shaft on the No.2 lode is another vertical one connected with the eastern portion of the same workings. Some deep trenching has also been carried out a few feet to the north of this winze. The No.3 shaft on the No.2 lode is a vertical one sunk to a depth of 13 feet.

#### THE GOLD QUARTZ LODES.

As stated above two lodes, termed the No.1 and No.2 lode respectively, occur on the property.

THE NO.1 LODE. This lode has been exposed at its southern end in the No.1 shaft. The shaft is filled with water and the lode could not be examined. It is stated that seven tons of quartz were obtained from this shaft and forwarded to Victoria, a return of four dwts. of gold per ton being obtained.

A trench along the lode runs in a general northerly direction, but is now filled with debris. About 80 feet to the north, what is apparently the No.1 lode has been exposed in a trench to the west of the No.2 shaft. In the eastern end of this trench a large block of quartz occurs on the southern but not on the northern side. The footwall of the quartz has a bearing of about  $10^{\circ}$  and a dip to the east. A wall with similar strike and dip is visible on the northern side of the trench. It has a small amount of ferruginous material along its course and represents the footwall of the lode. The lode to the immediate north of the block of quartz consists of altered slates with narrow quartz veins in it. The block of quartz is of a white colour with numerous dark angular patches representing unreplaced or partly replaced slate. Arsenopyrite occurs with the quartz, but no free gold was visible. A sample across 12 inches of the quartz was assayed in the Mines Department Laboratory, Launceston, with the following results:-

GOLD	TRACE
SILVER	1 dwts. 7 grains.

The quartz at this point is, therefore, of no value.

The No. 2 shaft has been recently sunk several feet to the east of the above trench. The object was apparently to cut the lode at depth, but as far as the shaft could be examined, the bottom being filled with water, the lode was not cut. Several narrow, irregular veins of quartz are exposed in the shaft, traversing the slates in various directions from east & west to north & south.

Further north several trenches have been cut across the supposed extension of the lode. Some have exposed only slates, while others have exposed narrow veins of quartz which however cannot be definitely connected with the No.1 lode.

The above exposures indicate a lode with a bearing of about  $10^{\circ}$ . The dip in the trench is to the east, and a similar dip is reported in the No.1 shaft.

In a railway cutting between Whiskey Creek and the smaller creek to the north, and about the centre of lease 31P/G, a soft formation containing pieces of quartz is exposed. This formation is, however, situated to the west of the line of strike of the No.1 lode and so does not represent the continuation of the latter.

Water makes in all the deeper workings on the No.1 lode.

THE NO. 2 LODE. The western end of this lode has been exposed in the workings now known as the No.1 shaft. An old shaft connects with stopes at a depth of 6 feet from the surface. These stopes could not be entered but it is reported that they extend 20 feet to the west and as far as the No.2 shaft to the east. It is also reported that the lode where visible in the back of the stopes consists of 18 inches of white, unmineralised quartz. A battery was erected to treat the quartz from these stopes but the results obtained are not known. The stopes indicate a lode with a strike of  $75^{\circ}$  and a dip to south at high angles.

The No.2 shaft is similarly connected with the old stopes at shallow depths. It would appear that the lode was stoped over a length of about 60 feet and to a depth of 30 feet.

Some deep surface tranching has been performed immediately to the north of, and connected with, the no.2 shaft. This work has exposed a narrow vein of quartz parallel to, and to the north of, that which was stoped. At the eastern end of the trench a few inches of quartz occurs against a smooth hanging-wall which has a strike of  $60^{\circ}$  and a dip to the south of  $70^{\circ}$ . At the western end of the trench, six inches of white unmineralised quartz is exposed, but the strike has altered to  $90^{\circ}$ . Assays of this quartz are reported to have given results up to 30 ozs. of silver per ton.

The No.3 shaft passed through slates to a depth of 10 feet where a quartz lode was intersected. In the north-eastern corner of the bottom of the shaft, a formation, 18 inches in width and composed of altered slates and quartz, is visible. Towards the centre of the shaft, the strike of the lode gradually changes till it is  $60^{\circ}$ . The continuation of the lode at this bearing would bring it to the south of the white quartz vein in the trenches to the west, and it is probably continuous with the lode in the old stopes. In the centre of the shaft there is about 12 inches of quartz against the hanging wall. The quartz is white but

is well mineralised with arsenopyrite. A sample across this portion of the lode was assayed in the Mines Department Laboratory, Launceston, with the following results;

Silver	0 dwt.	14 grns. per ton
Gold	1 "	7 " " "

The quartz therefore has a very small gold content and is valueless at this particular point.

At the bottom of the north-eastern corner of the shaft narrow veins occur on both the hanging and foot-walls. Three feet up the shaft, quartz occurs only on the hanging-wall and at the top this appears to turn over and form a horizontal vein, five inches wide, going northerly from the shaft. This represents the top of the lode which is at a depth of about 10 feet below the surface.

All workings on the No. 2 lode are dry.

#### CONCLUSIONS AND RECOMMENDATIONS.

From the above descriptions it is seen that two main lines of lode occur on the property. No. 1 Lode has a strike of  $10^{\circ}$  with a dip to the east. The No. 2 lode has a strike of  $75^{\circ}$  with a high dip to the south. These two lodes should junction at a point, 20 to 25 feet south-west of the No. 2 shaft on the No. 1 lode. The strikes and dips of the lodes are different to those of the containing slates and hence they occupy cross fissures in the latter.

The No. 1 lode has been exposed in the No. 1 shaft and the trench near the No. 2 shaft. From the former a parcel of 7 tons gave a return of four dwts. of gold per ton. A representative sample from the trench gave only a trace of gold.

The No. 2 lode has been stoped for a length of 60 feet and a depth of 30 feet between the No. 1 and No. 2 shafts. The quartz was treated in a battery erected on the mine, but the results are not known. A continuation of the lode which was stoped is probably exposed in the bottom of the No. 3 shaft. In the trench near the No. 2 shaft, a narrow, parallel vein of quartz has been exposed.

As so far exposed, the lodes and veins of quartz are narrow and have a very small gold content. No payable reserves have been proved and the existence of such depends upon what future work will reveal.

Any such work should be devoted to testing the lodes at various points along their strike, and also at depth. One locality worthy of investigation is in the vicinity of the junction of the two lodes, if such exists, as it is under such conditions that shoots of gold often occur. To test the lodes at depth, it would be preferable to sink a main shaft between the No. 1 shaft on the No. 1 lode and the No. 1 shaft on the No. 2 lode. Crosscuts could then be driven to intersect both lodes and any others which might occur, and if the results were satisfactory drives could then be driven to further prove the lodes.

The possibility of the utilisation of the arsenical contents of the quartz has been raised. Up till the present, the content of arsenopyrite is altogether too small to warrant such a possibility.

Both the samples referred to above were examined in the laborator for the presence of tin, but none could be detected.

P.B. Nye  
GOVERNMENT GEOLOGIST.

Hobart,  
28th June, 1924

