

ADVISORY REPORT

on

GOLDEN ENTRANCE MINE, MANGANA.(Lease 1766/G of 20 acres - Lessee, C.E. Chesshire)INTRODUCTION -

This report is the result of a short visit of inspection on 22nd inst., for the purpose of getting information relating to the structure of the "reefs". The visit was well-timed, for on arrival it was found that the operators were not getting the best results from their efforts owing to their misinterpretation of the evidences of geologic structure. In consequence of that lack of knowledge much of the work has not been productive of good results. That, however, can easily be rectified by the carrying out of the recommendations given herein.

THE NATURE AND STRUCTURE OF THE VEINS -

Two veins lie in the ore channel, the footwall of the younger being the hanging wall of the older. The older represents the infilling of a fissure with gold bearing quartz; the younger, not so well defined, but larger, represents a quartz infilling of the brecciated hanging wall rock of the older and is almost barren.

The older veinstone is well exposed in the No. 1 or Upper South adit, where it is found "frozen" on or strongly adhering to the slate foot-wall, showing that since its formation no movement of the vein on that wall has taken place. It consists of iron stained quartz through which ramify shrinkage cracks filled with iron oxide. Gold is found in the shrinkage cracks and also in the body of the quartz in coarse specks and minute veinlets. The iron oxide is an oxidation product of pyrite and arsenopyrite. The vein pinches and swells along its course from a thin streak to 12 inches in width, the average at this level being about 8 inches. Its ore shoots pitch southward. This fissure vein, coursing N. 46° W. and dipping south westward at an angle of 55°, has been opened at intervals over a thousand feet in length, and has produced many thousand pounds worth of gold from the shallow mine openings on the north side of Sharkey Gully.

The younger veinstone is separated from the slickenslided hanging wall of the older by a band of selvage or pug 2 to 3 inches wide. It consists of quartz studded with pyrite and veined with ankerite filling interstices in the broken or brecciated hanging wall rock of the older gold bearing vein. The smoothly slickenslided footwall of gold quartz, the thick selvage and the comparatively great width of quartz filled breccia provide ample evidence of a reopening of the channel after the deposition of the gold quartz and the subsequent great downward movement on the hanging wall side. The slickenslide courses 165° showing a very bright and smooth face of quartz with here and there a polished speck of gold. After the downthrow and the brecciation of the wall rock over a width of six feet later silica solutions deposited quartz with pyrite and ankerite in the openings between the pieces of broken stone. The result is the formation of an ore body superimposed on an earlier one. Their line of division is clearly marked by the seam of black pug or selvage. The quartz of the younger one, deposited at a much lower temperature during the waning stage of mineralisation, contains very little if any, gold.

THE SOUTHERN WORKINGS -

These consist of two adits, the upper or No. 1 being 130 feet higher than the lower and its entrance on a bearing of 133° therefrom.

No. 1 adit follows the course of the veins 160 feet on an average bearing N. 46° W. Near the entrance to the adit shows 8 inches of gold-quartz altering to a rough rough footwall separated by a pug band from younger barren quartz and crush breccia six feet in width. That relation is exhibited at every point to 150 feet, where the gold quartz gives out and the pug seam or band rests directly upon the original footwall which there is slickenslided. Doubtless the gold quartz will come in again a few feet ahead and the barren younger veinstone now occupying the face of the adit will be in part displaced by it.

No. 2 adit, bearing 125° a distance of 110 feet follows the course of the younger reef along the smooth selvage coated hanging wall of the older. It exposes over a width of 5 feet crushed bedrock or fissure breccia cemented together with white opaque quartz containing pyrite and ankerite. This adit does not expose the gold bearing veinstone, which lies in the footwall along the south west side of the adit. The vein here dips south westward at an angle of 65° .

SUMMARY AND RECOMMENDATIONS -

The gold bearing vein on this lease has been proved to extend over 1000 feet in length and is being tested to a depth of 300 feet below the hill-top. It is remarkably regular in its course and is gold bearing throughout, but varies in width. The gold bearing vein is overlain by a younger and larger body of brecciated wall rock with interstitial quartz which is almost barren. The two are separated by a seam of black pug the presence of which allows of an easy distinction.

In the past the two bodies were regarded as one, and where the older pinched out and the younger occupied its place, the operators finding the stone very poor became disheartened and stopped work. The exiguous condition of the gold bearing stone at certain places along its strike and dip need not cause apprehension for attenuated sections will be found alternating with full-bodied sections.

It is recommended that work be concentrated at the lower or No. 2 South adit; that the drive be turned into the footwall to cut the gold bearing reef; and that the reef proper be followed southward to 300 feet as a first step in development. The continuation of the drive along the wall breccia will not provide any information of value.

A. McIntosh Reid.
DIRECTOR OF MINES.

Mines Department,
Hobart.

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