

PRELIMINARY REPORT

on

SOUTH RENISON BELL MINEGeneral Statement

This report deals with the result of a two days visit - a preliminary investigation only. A compass survey of the workings and of the ore veins and containing formations was performed and a plan has been drawn to illustrate their relative positions and associations. The development workings shown on the plan were performed by a Hobart Syndicate who held this ground under lease many years ago, and the stoping by small parties of miners during the past decade. An effort was made to concentrate the excavated tin ore in sluice boxes and other primitive appliances but without marked success. It is reported that four tons of concentrated ore was obtained in those operations. The present lessee is engaged upon the sluicing of the dumps from the earlier workings.

Area, Situation, etc.

The mine is enclosed within the boundaries of bld lease 7784M of 39 acres, which is situated south and adjoining consolidated lease 5865M held in the name of William Cripps. Renison Bell township is 79 miles by rail from the port of Burnie.

Geologic Relations

The area is occupied almost wholly by tuffs, slates and sandstones of the Dandas series of the Cambro-Ordovician. In the neighbourhood these rocks have been intruded by dykes of Devonian gabbro, serpentine, and quartz - felspar porphyry. An off shoot of the last mentioned intrusive cuts through the sedimentaries in this area and is primarily responsible for the occurrence of the tin ore. The intrusive is irregular in outline and courses a little west of north. It is composed largely of quartz and acidic felspars, is generally of fine grained textures and its felspar components exhibit incipient kaolinisation. It has the following composition:-

silica	69.40	per cent
ferrous oxide	2.03	" "
ferric oxide	0.71	" "
alumina	19.20	" "
Soda	0.25	" "
potash	4.38	" "

The ore-bodies

The ore-bodies are of the quartz-pyrite and quartz-pyrrhotite kinds and vary greatly in content of tin ore from point to point. They are very irregular in outlines, in their strikes and dips, and in their composition. Being of the fissure-replacement type their irregularity is due directly to the shattering of the sedimentary rocks by the intrusion of the porphyry and to subsequent faulting. In consequence are found main ore-bodies and many

smaller off-shoots of them. The general trend of main ore-bodies is west of north in conformity with the strike of the dyke and their dips are eastward; the others are inclined there to in strike and some are opposed in dip. Some of the pyritic ore-bodies penetrate the dyke rock, but there, as a rule, they are poor and free of quartz. The richest ore appears in association with a lattice-work of prismatic quartz and interstitial pyrite. Massive pyrrhotite ore is poor; pyrrhotite-quartz ore is rich, dense pyrite is poor. The tin ore shoots exposed in these workings are very short.

Associated with the minerals mentioned are marcasite (an alteration product of pyrrhotite) and sphalerite (zinc blends) and the gangue is white opaque quartz. The zinc ore lies on the footwall of No. 1 lode and is exposed in the south drive from No. 3 adit crosscut. Apparently it is a later infilling of the reopened fissure. Oxidation of the sulphidic ores is greatest along the walls of the dyke rock. Generally the ores are sulphidic within a few feet of surface.

The Mine Workings

Four adit crosscuts and drives there-from and an open-cut have been made to expose the ore-bodies, Nos. 2 and 3 being the most important. No. 1 adit has been driven 146 feet on a bearing S25E in tuff. Crosscuts at 60 feet and 91 feet are also in tuff. This opening lies eastward of the known ore-bodies.

Seventeen feet westward of the entrance to No. 1 adit is an open-cut into the white porphyry dyke. On the east wall of the dyke is a band of gossan containing a little tin ore.

No. 2 adit crosscut, driven 120 feet on a bearing S 65° W. cuts No. 1 lode at entrance, No. 2 lode at 32 feet, and narrow veins at 88 and 103 feet, No. 1 lode has been stoped to surface. No. 2 lode, 15 inches wide, has been opened N. 5° W. a distance of 42 feet and stoped to surface. In the south drive the lode cuts out in porphyry; but at 30 feet reappears from the floor of the drive; at 40 feet it is the full width of drive and has a footwall of tuff; at 59 feet it has passed to the east side of the drive which follows the footwall of the lode due south to 56 feet whence on east crosscut reaches the dyke at 55 feet. A 6 foot gossan body lying adjacent to the dyke is barren. From the 59 foot point of the south drive a crosscut in tuff exposes two narrow veins, one of quartz-pyrite, the other of gossan.

The veins exposed in the crosscut at 88 and 103 feet are of gossan and pyrite. Each is 12 inches wide and almost barren.

No. 3 adit crosscut intersects a vein at 38 feet, No. 1 lode at 42 feet, and a flat narrow vein at 96 feet. On the north side of crosscut the two narrow veins dip westward, on the south side they dip eastward. That exemplifies the extraordinary rupture of the containing rocks. No. 1 lode has been exposed 63 feet in south drive where it enters the dyke. At that point it is 12 inches wide, composed of pyrite, and almost barren. In the main drive it is 3 feet wide and is fairly rich. From the 63 foot point a south-westerly crosscut intersects

a 6 inch vein and near the end enters a big pyritic body poor in tin. A drive on this body has waded and is not now open for inspection.

No. 4 adit crosscut, which is about 100 feet lower than No. 1 adit, is 65 feet in length, at 34 feet a narrow gossan vein on the line of No. 1 is exposed.

General remarks

From the evidence outlined in the foregoing account it is seen that the structural relations are very complicated and are with difficulty decipherable. The rock formations of the area containing the lodes and veins have been fractured in an irregular manner and their infillings of vein material vary greatly in content of tin ore. The lodes are rich in some parts, but the shoots of such ore are very short. It is possible that uniform conditions may be found at depth. On the information at hand a little expenditure in development at a lower level may be justified.

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Director of Mines

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Mines Department,
HOBART.
