

TASMANIA.

REPORT

OF THE

SECRETARY FOR MINES

FOR

1896-7,

INCLUDING THE REPORTS OF THE COMMISSIONERS OF MINES,  
THE INSPECTORS OF MINES, THE GOVERNMENT GEOLOGIST,  
THE MOUNT CAMERON WATER-RACE BOARD, &c.



Tasmania:

WILLIAM GRAHAME, JUN., GOVERNMENT PRINTER, HOBART.

1897.

*Specimen Reef, Hall's Creek.*—A good deal of work was done here some years ago, including the bringing in of a water race about four miles long, and the erection of a six-head battery driven by a water-wheel. Three tunnels have been put in, and altogether over 2000 feet of driving has been done. No. 1 tunnel, bearing N. 30 E., was driven along the reef for about 300 feet and connected with the surface by several rises. At about 80 feet from the entrance a winze was sunk on the reef which underlays rather flat to the S.E., to connect with the No. 2 level 100 feet below, and at 60 feet down an opening was made in either end and short drives put in north and south. The north end shows about a foot of dark carbonate of iron, which is said to be the matrix in which the best gold occurs here. The drive south shows only traces of the lode, with blue pug on the footwall. Above the tunnel for some distance beyond the winze the ground has been stoped to the surface, which is here only 25 to 30 feet above, and some rich patches of gold were obtained. No. 2 tunnel has a total length of about 1000 feet, including 300 feet from the entrance to the lode. Just beyond where the lode was struck the ground had come away from the back and blocked the drive.

In No. 3 tunnel, which is about 100 feet below No. 2, the lode was cut at about 500 feet, and has been followed 200 feet to the north. When I saw it the lode was about 3 feet wide, rather broken with bunches of quartz and a little carbonate of iron. The intention is to drive under what is known as White's winze from No. 2 level, some 400 feet ahead of the present face, where a very rich shoot of stone is said to have gone down under foot, but could not be followed on account of water. Another good shoot may be cut at any time, and the present proprietors certainly deserve success for their pluck in doing so much dead work in face of great difficulties. Another formation carrying quartz and carbonate of iron was cut in the main tunnel about 60 feet beyond the present drive, but no work has been done on it. The gold found in this mine is said to be generally covered with oxides of iron and manganese occurring in black lumps locally termed "clinkers." Simple battery treatment would probably result in a big loss, and grinding and pan-amalgamation would be necessary. In places there is a good deal of pyrites which is also said to assay well for gold, and to save this considerable additions and repairs will have to be made to the battery, but very little can be done in this way until better means of access are provided.

#### HEAZLEWOOD AND WHYTE RIVER DISTRICTS.

The greater portion of the rocks of these fields consists of igneous rocks of very varying composition and structure, ranging from acidic through basic to ultra-basic. In the western portion of the field they are generally coarsely crystalline, but to the east are fine-grained to compact, and throughout the field have been more or less chemically altered to serpentine.

Messrs. Twelvetrees and Petterd have recently made an extended microscopical examination of some of the rocks from this neighbourhood, and have identified the following varieties:—Hornblende-granite, Porphyritic diabase, Augite syenite, Gabbro of several types, and several varieties of the Pyroxenite and Peridotite families. These rocks are probably of several different ages, but prolonged examination in the field and careful microscopical and chemical examination would be necessary to determine their relations to one another and the sedimentary rocks, through which they have intruded in numerous dykes and bosses. The sedimentary strata, consisting of limestones, sandstones, and slates of silurian age, are best seen to the west of the Godkin line of lode, narrowing going north and cutting out altogether on the other side of the Heazlewood River, but widening to the south. Narrow belts are also seen further east separated by igneous dykes, the slates near the contact being frequently porcellanised and altered to hornstone.

The main line of contact on the west crosses the Waratah-Corinna track, near the 18-mile peg from Waratah, and the slate country to the west of this should be well prospected, being very favourable for the occurrence of lodes.

The only work that was going on in the Heazlewood District at the time of my visit was on Section 1758-91M, 80 acres, owned by the Lord Brassey Nickel Company, situated on a high hill to the north of the Heazlewood Bridge. Several small veins containing nickel ores have been found on this and the adjoining section to the south.

A shaft, now full of water, was sunk at the top of the hill on an E. and W. vein, and some good ore was obtained. The nickel is chiefly in the form of sulphide of nickel and iron, and I have been unable to detect any trace of arsenic in it with the blowpipe. It is of a light bronze colour, and in powdered form is attracted by the magnet, resembling pyrrhotite, but clean samples are said to have assayed as high as 40% nickel. Mr. Petterd informs me that he has submitted samples to the well known mineralogist, Professor Dana, of the United States, who has pronounced it to be a new mineral, and the name "Heazlewoodite" has been proposed for it. So far as could be seen, it is always associated with the green hydrous carbonate of nickel zarateite.

The serpentine in which the veins occur is traversed in all directions by slickensided planes, probably due to differential movements within the mass. These are sometimes coated with a thin film of zarateite, and have led to a lot of useless work being done. A tunnel started presumably to