

beds of coarse feldspathic quartz grit, at a strike of N. 30° E., dipping apparently vertical, whilst slate and grit, though showing the same strike, dip E. 30° S. at 60° to 65° .

As regards its character, it is in reality not a genuine quartz reef, but conforms more to what are called mullock reefs in Victoria. One may compare it to a large fissure, in places 30 to 40 ft. wide, filled confusedly with larger and smaller masses of the wall-rocks—grit and slate—and the interstices between these masses occupied by mullock, enclosing irregular pockets and veins of quartz, through which (but more especially through the quartz) rather solid crystalline specks of gold are distributed. Iron-pyrites has not as yet been observed. The mullocky portions (irregular veins, as it were) cross the reef-mass in all directions (horizontally, vertically, and obliquely), and on this account, as each vein cannot be specially followed, the workings have to be carried on by quarrying the reef out *en masse*, and classifying the stuff afterwards,—a rather troublesome work, during which it cannot be prevented that a large amount of poor or non-auriferous matter becomes mixed with the quartzose mullock; hence the low yield of the latter of only 2 to $2\frac{1}{2}$ dwt. per ton on the average.

The workings extend at present about 6 chains along the strike of the reef, the principal one being a wide quarry-like open cutting, several chains in length, and 10 to 14 ft. deep at the up-hill end; farther on, follows a large open pit, and beyond this, right on the top of the spur, are several shafts, in all of which the auriferous mullock has been struck.

Several small shallow gullies descending from the reef down the slope of the hill have been found payably auriferous, and there can be no doubt that this reef contributed largely by denudation to the gold found in the Onkaparinga river, not far off, and more especially at and below the point where its line of strike crosses the latter.

All considered, Ulrich believes it might profitably be worked on a larger scale than is at present the case, and that there is a chance of its becoming much better defined in depth. That this reef is the only auriferous one in the district is also very unlikely, and careful prospecting of the neighbourhood would therefore be an advisable and promising undertaking.

The auriferous mullock of the reef is crushed by a 5-head battery, erected at the foot of the range, close to the Onkaparinga river, which latter would furnish plenty of water for any number of stamps in addition.

The amalgamating appliances of this machine are very elaborate, but the blanket-strakes (the great advantage of which has been long and satisfactorily demonstrated in Victoria) are wanting; there is also too