

600 feet on the line of a quartz vein can be worked to the best advantage from one shaft, and that a party of six men would be sufficient to open and prove the mine with reasonable expedition. We would therefore recommend that at least 100 feet per man should be allowed in a quartz reef, with double that size on worked or abandoned ground.

88. At one time the Regulations allowed the quartz-claim holder to follow the reef in its dip, Following dip of wherever this might strike; but as this was found to lead to disputes, it was altered to a fixed reef. width, formerly 200 yards, but under the present Regulations reduced to 100 yards.

89. Although not so specified in the Regulations, the practice has been to allow 50 yards on each side of the base line, or supposed line of reef, on the surface. Hardly anything could more strongly exemplify the want of practical knowledge displayed in the management of the Gold Fields than does the interpretation thus put on this Regulation. Quartz veins strike into the ground in directions varying from the vertical to the horizontal, and the width of 100 yards is given to the claim in order that the whole of the vein, up to such depth as it is likely to be worked, may be included within the claim: but as the dip or underlay of the vein is almost invariably in the same direction throughout the claim, the 50 yards allowed on the other side of the vein, from the underlay, is of no use to the claimholder, while the 50 yards on the underlay side is quite insufficient to secure the whole vein to the miner, in numerous cases, and in consequence, ground is frequently taken up on the underlay side of the claims on the line of reef, with the object of catching the vein when it dips out of these claims. Examples of this may be seen both at Grenfell and Hawkins Hill; and such a mistaken policy only leads to a waste of labour and the robbing of the original claimholders, who, after bearing all the risk of testing the vein, may have to give up the best portion of it to a party who have never risked a shilling in proving the ground.

90. We would recommend that the old width of 200 yards be established, and in addition the claimholder to be allowed to mark out any distance not less than one tenth of the whole width on either side of the reef, and the remainder of the 200 yards on the other side.

91. All gold, whether alluvial or quartz gold, found within the area of a quartz claim should belong to the claim.

92. The Victorian areas for quartz claims (except in one district) vary from 100 to 150 feet per man; but in Sandhurst, the greatest quartz-mining district in Australia, extended quartz areas are granted of 320 yards, on condition of employing two men on the claim for the first six months, and eight men after that time.

93. *River and creek claims.*—This description of mining is attended with considerable outlay in building dams and cutting races for the diversion of the stream, or in the erection of machinery to pump the water from the river-beds. It is also attended by great risk, from the frequent occurrence of floods, which sweep away the work it may have taken months to prepare, and compel the miner to begin his labours anew. It is necessary to distinguish between mere gullies,—where there is no permanent water,—or where it is in such small quantities as not to impede the work of the miner,—and the river or creek beds,—which may be defined as watercourses having a running stream for six months in the year, presuming an average rainfall has occurred.

94. We think that 50 yards, with the whole breadth of the river or creek bed, should be allowed per man, without limit as to the number of men in a party. In addition, one claim of 50 yards should be allowed for every £100 expended in cutting races, making dams, erecting machinery, or other preliminary work not being part of the opening and working of the ground. These recommendations are only intended to apply to the river or creek beds: the working of the banks of these streams will generally come under the Regulations affecting sluicing ground. The present Regulations only give thirty feet per man, with a limit of six men's claim, or 180 feet. This is so inadequate for the work to be performed, that it may be fairly considered as prohibitory. In the Victorian districts, where sluicing is carried on to the greatest extent, the areas granted are from 25 to 70 yards per man.

95. *Sluicing.*—This important branch of our mining industry is not provided for in the present Regulations; for as leases of new alluvial ground are not granted, and only block claims of 80 feet by 80 feet allowed,—this kind of mining, if carried on at all, must be so on sufferance, and any ill-natured miner might ruin a neighbour who had expended his means in bringing water on to the ground, by merely taking up the land adjoining his small claim. In many instances the area allowed for a block claim by the Regulations could be worked out in a week or two, while the preparatory work might have occupied several months. We are of opinion that sluice-mining should be carefully attended to and encouraged, as there are extensive districts in the Colony where nearly all the mining works are of this character, and where a large amount of capital has been invested in it. The area of unoccupied sluicing ground in the Colony is also very great.

96. *Puddling.*—This description of work is usually carried on in old worked ground, where the richest portion of the deposit has been previously taken out, or else in ground too poor to pay for any more expensive mode of operating, but it is still of considerable importance, and it is only by this mode of working we can obtain a large amount of gold left in our older Gold Fields.

97. *Hill-tunnelling.*—In some of our gold districts the ancient valleys covered with a rounded drift containing gold, frequently in large quantities, have been filled up with volcanic rock (an overflow of lava), and the old streams have, in consequence, had to seek out new channels. In the instances brought under our notice in New South Wales, these new valleys, being worn out deeper than the ancient valleys, leave the latter high up on the sides of the modern valleys, and protected by a covering of basaltic rock. At Kiandra, the Hanging Rock, Ophir, and a few other places,