

from a gully in which the crushing machine also stands, near by. Similar to that on the Conroy's Gully Reef, this adit was also a very injudicious undertaking; for it lies only about 70 feet beneath the highest part of the hill into which it penetrates, and the greater portion of the reef had been worked out by shafts and open cuttings when it came to the end. Had it been continued about another 400 feet, there would have been a prospect of some 200 feet of backs to work up to a place at the surface, where in a superficial opening the reef was found 12 to 14 inches thick, and paid, according to Mr. Douglas, 22 dwts. per ton. In the adit, the reef was first struck on the left-hand side at 500 feet in, but the adit runs up to that point in such a manner—curving in and out—as to render it probable that along the whole or part of the above distance the reef exists still undiscovered in the left-hand wall—a supposition that might easily be proved by small cross-cuts. At the point in the adit where it first appears it is very thin, but very quickly increases to five feet in thickness, and a shaft sunk on it from the adit, 58 feet deep, proved it to continue regularly downward, and to gradually widen to six feet at the bottom. Adjoining the shaft, is a cutting 20 feet long, and 15 feet deep, in which it is also left nearly five feet thick underfoot throughout. The quartz from both these workings paid from 7 to 9 dwts. of gold per ton; but as it is indeed very rich in mostly arsenical pyrites, and the gold-saving appliances of the machine are of the usual imperfect kind, and were, as it is said, very badly superintended, I feel quite convinced that a great deal of gold and quicksilver was lost in the tailings. Beyond the just-mentioned cutting, the reef has not any more been prospected under foot in the adit, but some distance further on it has been seen five inches thick in the roof of the latter, and continues of that thickness right to the face, the hanging wall being especially well defined. Judging from this behaviour on the whole, I strongly suppose that the stone followed in the shaft and cutting represents a good and strong shoot, which dips at a rather sharp angle eastward in strike. As regards the old workings, they extend for a length of 280 feet, and the reef has been taken out right down to the adit. The stone was there of a very ferruginous character, and ranged in thickness from one to five feet—average about $2\frac{1}{2}$ feet. Extremely rich patches of golden quartz were found in places, and some of the crushings produced 2 oz. 16 dwts. of gold per ton; the average yields varied, however, from 16 dwts. to 1 oz. per ton. At the eastern end of the workings, the reef splits into two branches, and a tributers' party, who worked there last, followed the northern branch for some distance, and realised from 8 to 13 dwts. of gold per ton. Further east, on the opposite rise of a little gully, intersecting the line of the reef, they sunk two shafts—one about 75 feet in depth—for prospecting the branch, but, strangely enough, though the line of the latter across the gully is clearly apparent, neither of the shafts lies on it, but one too far north, the other south, and a cross-cut between the two has still good chance of discovering it. Some five or six chains further along the line from this point are the last workings of the tributers, consisting of several shafts ranging up to 60 feet in depth, from which the yields varied from 8 to 12 dwts. of gold per ton. Beyond these, there are no workings on the same line for the distance of over a quarter of a mile, where we came to those of the Victoria Company—an open cutting—from which 38 tons of stone were raised that produced at the rate of 14 dwts. of gold per ton. This yield of gold being too low to pay for working, carting, and crushing combined, the place was deserted. Touching the southern branch of the reef, it has been superficially prospected in several places for over a quarter of a mile in length, and proved to be auriferous, but not payably so. The, through long neglect, somewhat dilapidated crushing machinery of the old Aurora Company consists of two batteries of five heads of revolving stamps each, driven by a water-wheel; common amalgamated copper-plate tables and blanketst-rakes 14 feet in length, lying at a pitch of nearly two inches per foot. Small remnants of blanket sand near the tail-race proved, on examination, to be rich in finely divided quicksilver and amalgam.

The Lucknow Reef and Company.—The strike of this reef is nearly E. and W., its dip close upon vertical, and the walls are well defined. It has been opened along the surface for about 300 feet in length, the main workings lying on top of a spur, which it crosses nearly at right angles. As these workings were inaccessible, Mr. Ch. Colclough, the original discoverer of the reef and present legal manager of the company, kindly afforded me information about them, and gave me other particulars concerning the reef. The latter has been worked out to depths ranging from a few feet to 60 feet, and yielded from 8 dwts. to over 3 oz. of gold per ton. In the main shaft the reef, which proved about one foot thick, was followed vertically down to a depth of about 100 feet, but there a body of stone made its appearance, rich in gold and arsenical pyrites, and showing a thickness of 3 feet—*i.e.*, one foot of quartz on either wall, and one foot of mullock in the centre—and which was found to dip, flat, southward. The shaft was therefore turned on the underlay of this body, which was supposed to represent the main reef, and for a length of 14 feet followed it down to a depth of about 146 feet, where water was met with. A crushing from this underlay portion greatly disappointed, however, all expectations; for, instead of several ounces, it paid only from 8 to 11 dwts. of gold per ton. As it was thought that the water would give too much trouble in further sinking, and also in order to provide an easy road for the stuff to the machinery standing in the gully at the foot of the spur, an adit was at once projected and started from near the machine, without considering that the length it would have to be driven through hard, nearly horizontal, mica schist to strike the reef, and, consequently, its large expense was greatly disproportionate to the small height of backs—estimated at hardly 40 feet—to be rendered available by it. Irrespective of that—in which most opinions agree—closer examination would have shown that the water in the shaft was mostly due to surface percolation, and might have been easily beaten by a horse-whim. At the time of my visit, this adit, which makes two strong angles in direction, had progressed to a point which Mr. Besanko, the mining manager, considered, from rough measurements—(the want of a proper mining survey and working-plans is here painfully apparent)—to lie south abreast, or already a little beyond, beneath the bottom of the previously mentioned shaft—the last 100 feet having, at the rate of £8 to £10 per foot, been driven E., in the line of a flat slide which he took, from its position, to represent the continuation of the flat reef left in the shaft; and in this supposition he seemed, to all appearances, to be correct. But if so—considering that only few small pockets of rich gold-bearing quartz had been met with in the slide along the whole distance, and that, moreover, but a comparatively small stream of water had made sit appearance in the face, though there were nearly 60 feet of water standing in the shaft above—the prospects of the flat reef at that depth appeared to me far from cheering. On the supposition of its forming a block dipping from the shaft