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GOVERNMENT GEOLOGIST

T A S M A N I A
LEGISLATIVE COUNCIL.

G O L D A T M A N G A N A

MR. GOULD'S REPORT.

GOVERNMENT GEOLOGIST

Sir,

I have the honor to state that I have visited Mr. Goodall's reefs near Mangana.

These crop along the summit and flanks of a ridge dividing the tributaries of Major's Gully, specified upon the Fingal Gold Chart as Golden and Fern Tree Gullies; this ridge being one of numerous spurs, starting and radiating in all directions from the edge of an elevated plateau completely encircling the base of Tower Hill.

There are at present four reefs or quartz veins discovered upon Mr. Goodall's tenancy, maintaining a remarkably parallel direction from north west to south east. Three of these have already been described in some detail in Mr. Goodall's communication to the "Mercury", the fourth has not yet been explored, and he has therefore not referred to it.

The position of these reefs may be readily seen by anyone having access to the Gold Fields Chart. Since the line of the surveyed road through Mr. Gellibrand's land coincides almost exactly with the direction of the course of Mr. Goodall's No. 2 Reef, upon the summit of the spur, Nos. 1 and 3 course nearly parallel with the former, the distance of the first by measurement at a point 10 chains northerly from the westernmost corner of Lot 2134 being 48 yards to the north east, of the latter 60 yards to the south west.

The later discovered one lies to the eastward of all the rest and distant some 20 or 30 yards. Each of these reefs is distinctly traceable on the surface for a few hundred yards by detached stones. They are being proved at intervals by trenches cut across their direction. The country enclosing them consist partly of soft yellow slates decomposing into pipeclay, and partly of sandstone more or less hard.

The upper end of the ground, or the north-western half of it, has the slate and sandstone formation concealed by a hard conglomerate for a depth of thirty or forty feet, which belongs to a distinct, and much more recent formation (Upper Palaeozoic), fringing Town Hill, Ben Lomond, and most of the mountain ranges in the neighbourhood. Beneath this the reefs will have to be sought by driving or sinking there being every reason to credit their extension below, it; the sole drawback consisting in the greater expense of proving, and increased depth of lift of the stone when extracted.

The unbroken extent of these reefs is very considerable, and the amount of stone readily available for crushing, and the fair distribution of gold throughout the parts hitherto tested, fully warrant sanguine expectations of an investment of capital meeting with satisfactory return.

I had no difficulty in tracing No. 1 Reef for a distance of about 500 yards from the point where it crosses Golden Gully to its burial beneath the conglomerates; and the various cross cuts in the underlay shaft and in surface stones in situ Mr. Goodall pointed out to me coarse gold visible at many points at intervals extending over about 300 yards, and I have no reason to doubt his statement of having obtained surface specimens over a still more considerable distance.

In the creek in Golden Gully the reef is apparently from four to five feet in thickness, and it may be traced across the creek to the southward for about 50 yards, after which it seemed to be splitting into strings in a hard sandstone country. To the northward of the creek it can be easily traced up the side of the spur to its summit, but no trial of the reef has been made upon the slope of the hill, - the first opening in it being distant, according to my estimation, about 160 yards from the outcrop in the gully, and about 250 feet above it.

At this point the reef is four feet in width, and gold is visible both in the surface stone and that which has been extracted. The underlay shaft about 60 yards from this along the crop of the reef, which proves to underlay about 60° to the north east.

The thickness increases downwards to five feet, the coarse gold continuing to the lowest point yet reached.

The surface stones show gold between this and the next cut, forty-five yards distant, in which the reef attains nine feet in thickness up to the northern extremity, where it disappears beneath the conglomerate. A vertical shaft is also being sunk by Mr. Goodall, which he anticipates will cut the reef at a depth of fifty feet.

The quartz in this vein forms a compact solid white, rather opaline in its appearance, with chloritic - or, as miners would term them, blue and green - marbly veins intersecting it. It contains both sulphurous and arsenical pyrites, is occasionally stained with ferruginous matter (the rose quartz of Mr. Goodall), and shows coarse gold both in the honeycomb and in the solid. The proportion of galena is noticeably small as compared with that associated with the quartz in the Waterhouse veins.

No. 2 courses north west and is nearly vertical, the slight underlay being easterly. It varies in thickness along the crop from one foot to four, has a good deal of blue slate, intermixed with the stone in places, and shows in one of the cross cuts a capping of blue slate completely intersected with quartz strings, and holding coarse gold freely.

The country enclosing the reef is principally blue clay-slate, but in places there proves to be slate upon one wall, and sandstone on the other. Coarse gold is visible in the quartz of this reef at intervals for 200 feet; the reef itself may be traced along the surface for several hundred yards.

No. 3 has not been explored yet, so that its size and underlay remain undetermined. It appears to be smaller than the other, parallel in course, and shows gold in the stone.

No. 4 crops in Golden Gully, about 20 yards above the crossing of No. 1. Enormous slabs of it lie on the flanks of the hill, the underlay and the slopes of the latter apparently just coinciding. It is at least ten feet thick in places. It can be traced north for about 100 yards, and then loses itself in a hard greenish grit. The stone is very similar to that in No. 1; contains pyrites and has all the appearance of carrying gold, which is stated to have been found in it by others than Mr. Goodall, who himself has not had leisure in any way to prospect it.

The continuation southward of some or all of these reefs will probably be found in the vacant crown land east of Mr. Fisher's block, or on the portion of that lot bordering Golden Gully.

I did not understand my instructions to extent in any way to the examination of the road regarding which Mr. Goodall writes, and of which a survey and estimates of cost would be necessary before any consideration can be given to the subject. Doubtless the heavy expense of transport of machinery from Mangana Flats to the summit

of the spur, at least 800 feet above them, will militate against the success of Mr. Goodall's undertaking without some concession or assistance upon the part of the Government.

Reviewing the reefs generally, I am fully of opinion that if the shafts now being sunk prove them to hold as good in depth as they appear to be upon the surface, there will be at once sufficient stone in sight for several years' crushing of a paying character.

It is probable that similar reefs will be traced to the heads of the gullies starting from Tower Hill; and in such case the road through Mr. Gellibrand's property would be serviceable in opening up the Crown lands beyond it; and this consideration may influence the Government in aiding Mr. Goodall in the construction of a road - independent of its being, perhaps, a vitally-national policy - to foster and aid, by all means possible, undertakings like Mr. Goodall's, which, if successful may prove to be the commencement of a long series of successful enterprises.

I am glad to add that, by a note received, I learn that since my visit the underlay shaft has been carried to a depth of thirty-five feet, and that rich specimens of gold were there obtained, gold having been traced all the way down.

I have the honor to be,

Sir,

Yours obedient Servant,

CHARLES GOULD.

The Hon. Colonial Treasurer.