

GOLD FIELDS.

period than the east and west veins; and it shows also that the strata which they traverse were solidified, and, to some extent, metamorphosed, previous to their formation.

That the east and west quartz veins were formed at a much earlier period of time than the cross courses, is still further shown by the manner in which they have moulded places for themselves in the strata which enclose them.

The convoluted, or rolled form, which they are sometimes found to have assumed, shows unmistakably that the strata were not altogether solidified when the veins were formed. It appears, indeed, very probable that the east and west veins were formed while the strata were sufficiently plastic to yield and bend without breaking.

We find here additional evidence to show that the upheaving of the strata, along east and west anticlinal lines, resulted from the first class of lines of upheaval were produced at a subsequent period by a second class of disturbing forces.

That the first class of disturbing forces continued in active operation up to the close of the carboniferous period, is clearly shown by the manner in which the strata of that age are folded up in the synclinal folds of the older rocks and mainly conformable with them in their bedding. But the second class of disturbing agencies appears to have been most active after the close of the carboniferous period.

In the way of exploration, much remains yet to be done in the Waverley Gold Field, particularly in the west end of it; nor is it unlikely that rich deposits of gold exists in the drift lying to the south-eastward of it.

To the northward of this Gold District, at a distance of five and a half, or six miles, after passing over a trough partly filled up by members of the clay slate group, we come to another great anticlinal fold in the quartzite group, on which, at a distance of two miles east from Grand Lake, the gold mining district of Oldham is located.

The great depth at which the gold bearing strata of this field lie, in that group, is clearly seen in the section shown by the railway cutting. It can not be much short of half a mile of vertical depth.

All the mines that have been opened in this district are ranged along a deep narrow valley, which extends for some distance in the anticlinal axis of the field, as if a wide chasm had originally been formed along the line of upheaval. Should this, on further examination, prove to be the case, extraordinary deposits may be expected towards the bottom of this fissure; and shafts should be sunk there for the purpose of exploring it. Quartz veins seem quite abundant; and some of them are of large size, and apparently rich in gold.

The prospects, upon the whole, appear quite favorable; and, no doubt, when the geological peculiarities of the district are better understood, it will prove an important mining locality.

I made some explorations to the west of Grand Lake, along the Oldham metalliferous band, and found traces of gold in the sands of a small stream, which, I believe, is locally named the Beaver Dam River.

This region is, no doubt, worthy of more extended search than I was at the time able to make; for the surface indications appear to be of a very favorable character.

Proceeding northward on the Beaver Bank road, another belt of clay slate is crossed before reaching the metalliferous line of elevation on which the Renfrew gold field is situated. This belt occupies the synclinal valley between the Oldham and Renfrew anticlinal folds.

I obtained gold from fissures in this slate, and from patches of rusty looking soil on its surface; but since no quartz veins appear to exist in the slate itself, it is most likely that this gold was removed by glacial action from the Renfrew band, which lies to the northward.

Explorers for gold should give this district a thorough examination, by sinking pits down to the bed rock, in the most likely places; for there is