

THE ASHBURTON GOLD DISCOVERIES.

THE TOP CAMP.

Alluvial gold was first found on the Ashburton River, at the beginning of 1890, about 14 miles S. of the tree marked 45 (triangle), in a creek flowing down a gorge, about 200ft. deep, between steep cliffs of clay-slate capped by almost horizontally bedded limestones.

These clay slates dip at a high angle to the N.E. They are intersected in places by small quartz reefs or leaders, in many cases ferruginous, but up to the present none of them have proved to be rich in gold. The capping limestone (dolomite), the underlying shaley sandstone, and ironstone beds are probably a Northern and Eastern extension of the Carboniferous and Devonian formations so largely developed on the Lyons and Gascoyne Rivers, though as yet no fossils have been found by which their age can be definitely fixed. The beds dip at an angle of 20 deg. S., resting unconformably upon the upturned edges of the clay-slates (Silurian?) and from their line of junction many strong springs break out. To the S. these limestones form a large flat-topped range or table-land, and completely covering the clay-slates which are not exposed again, even in the gullies and the stream beds, although these are often of great depth.

There cannot be the least doubt that the gold in the gullies has been derived directly from the mineral veins in the clay-slates, for it has never been found in those gullies where the slates are absent, as the overlying limestones contain no mineral veins. The mineral veins must be of great antiquity as they were formed prior to the deposition of the superincumbent Carboniferous and Devonian rocks, for in no case do they extend beyond the line of junction.

It is rather remarkable that there are no conglomerate beds in this district at the junction of these two formations; the limestone for the most part resting directly upon the upturned edges of the clay-slates. Should any such conglomerate or detrital deposits be discovered, they should be prospected, as it is highly probable they would prove rich in gold.

The gold on this field is very pure, and free from quartz and ironstone. All the larger pieces were of a flat bar shape, owing to their having been formed between the slate ledges by the slow accumulation of fine gold, which by the gradual accretion, due to the deposition of the minute quantities of gold held in solution by the water, has formed into one piece, taking the shape of the cavity or ledge. The largest nugget yet found weighed about 6lbs., and it is estimated that from 9,000 to 10,000 ozs. have been taken from these diggings. The run of gold in the main gully extended for over one mile in length, but most of the gullies N. and S. for a distance of about five miles along this line have proved rich.

Whence this gold was derived it is impossible to say without carefully mapping and prospecting the area, but it is highly probable that it results from slow accumulation from poor quartz and ironstone reefs, though in some cases it may have been washed from older "leads" and conglomerate beds, which, if they existed, must have followed the present courses of the creeks, for no traces of such beds are now to be seen. The deepest sinkings on this field are from two to three feet.

All these gullies will pay to work again and again after each heavy shower of rain, as their beds are so small and deep that they will act as ground sluices, re-sorting all the dirt which has been imperfectly treated by the process of dry blowing.

THE "SOLDIER'S SECRET" OR MIDDLE CAMP.

This field is situated about 20 miles N.W. of the former, and about 14 miles up the Mount Blair Creek. It is very similar in formation to that of the Top

Camp, except that the flat-topped limestone hills are here two miles to the S. The gullies run between steep clay slate hills and carry gold for distances of 200 to 400 yards. The gold is much finer, and it is estimated that 1,500 ounces have been found up to the present, whilst the diggings cover an area of about 5 square miles. Messrs. Cook and Green have sunk a well in the bed of the Mount Blair Creek, where there is a good supply of water.

To the N.W. of the Camp there are the remains of an old lead crossing some low hills, where fine gold occurs everywhere on the surface and in pockets on a false bottom of travertine limestone. In the wash a great deal of ironstone, some of it magnetic, is found with the gold, but, as at the Top Camp, very little quartz.

Some large quartz reefs cross this line of country, forming high hills, but it is not at all probable that they carry gold; the smaller reefs and ferruginous veins are far more promising. The largest pieces of gold found on this field weighed about an ounce each, but larger may have been found and not reported.

THE DEAD FINISH.

This field is situated on the North side of the river, about 5 miles North of tree marked 35 (triangle), and 6 miles North-west of Gregory's Deep Creek. This patch of country is not nearly so hilly as the other fields, and there is much more quartz, from which it is probable that the gold has been derived, for it has been found in the gullies up to, but not higher than, the quartz reefs. These diggings are the "stand-by" for any man who is penniless, for he can always be certain of obtaining enough gold at these workings to pay his way. The gold is mostly shotty in character. The largest piece found weighed about 8 ounces, and it is estimated that about 1,000 ounces have been obtained. Unfortunately water has to be carted about 6 miles, and the gold is not found so easily as in some of the other diggings.

THE GORGE.

These diggings are situated a little to the South-West of the Dead Finish, but on the other side of the river. Some nice nuggets were found, and a rush set in, but the extent of the country was neither large nor rich enough for a number of men, but the few did very well.

MOUNT MORTIMER DIGGINGS.

These diggings are situated about 7 miles S.E. of the hill marked on the new maps as Mt. Dawson, but which has always been known in the district as Mt. Mortimer.

The country here is slightly different from the upper fields, as the clay slates are often replaced by sandy slates and ferruginous sandstone beds, and is generally harder, while the gullies are not so steep. The "sinking" is, as a rule, deeper, and being so much harder a claim takes longer to work out.

In one gully a quantity of large pieces of gold were found, the largest weighing 56 ounces, but in the other gullies the gold, as a rule, is not found in large pieces, and is generally associated with a good deal of ironstone; indeed, the latter is often included, so that the lumps have to be crushed in order to separate the gold. The nearest water is 2 miles distant. The claims took a month or six weeks to work out here, so money was not made so easily as when slate bars had only to be raked with a pick.

GENERAL REMARKS.

An auriferous belt of country extends from Hicks' on the Ashburton, following this river in a S.E. direction for about 150 miles. It is bounded on the S. by the Barlee Range and a flat-topped table-land, which follows the main course of

the river at a distance of 14 miles to its S. To the N. it extends across the Ashburton and Hardy Rivers to Mount Wall and Mount de Courcey, *i.e.*, a distance in a Northerly direction from the river of 20 to 30 miles, which gives an auriferous area of about 10,000 square miles.

The rocks are identical with those of the auriferous areas of the other Colonies, and entirely different from anything in this Colony to the South of this district. The river follows the strike of the rocks, which dip mostly to the N.E. They consist of clay and chloritic slates, sandstones, and quartzites (the slates being often of the cleavable kind used for roofing purposes); they are intersected by numerous quartz and ferruginous lodes, which have often highly altered the slates in their immediate vicinity, and these whitish and highly mineralised portions of the country should be prospected. There is a most promising tract of this class between the Dead Finish and Gregory's Deep Creek, and two or three more on the road down the river.

The general features are high slate ranges to the S., backed up in the distance by flat-topped limestone ranges, large alluvial plains following the river chiefly on the N. side, with here and there low isolated slate hills rising up through the plain, and some miles away to the N. rough slate ranges again recur.

Up to the present very little prospecting has been done, as only the rich patches in the shallow ground are considered worth troubling about.

In the large plains of the Ashburton there are sure to be some very rich deposits of gold found, but as the prospecting will be most expensive work, no one will undertake it, unless he be granted a protection area, until the course of the leads has been ascertained.

Taken as a whole this is a most promising tract of country, and will, without doubt, prove a rich and lasting goldfield, but it is highly probable that before this is proved that everyone may leave the field under the impression that all the gold is worked out when they have scratched all they can from the slate bars of the small gullies in the ranges, but there will still remain that which will yield the best returns, *viz.* : the deep ground as yet untouched.

This field, as far as it has been worked, has produced the most gold in the shortest time of any field in the Colony, for about 15,000 ounces have been raised in about six months.

THE PILBARRA GOLDFIELD.

Proclaimed area, 32,000 Square Miles.

The Pilbarra Goldfield is situated in that portion of this Colony known as the North-West, that is, the district lying between the coast on the North, the Fortescue River on the South, and the De Grey River and Warburton's Great Sandy Table-land on the East. It is one of the most promising mineral areas in this Colony, its general features being a large low alluvial plain which follows the coast, broken here and there by rocky hills, whilst to the South and East rises a high table-land.

Several large rivers have there sources on the Northern edge of this plateau, and cutting deep gorges through the upper horizontally bedded rocks expose the underlying crystalline rocks across the strike of which they have cut their channels. These water-courses trend towards the N. and N.W. in deep gorges cut through the limestone and quartzite rocks, then through flats bounded by rough sandstone ranges, and on by deep ravines through rough broken hills of schists, slates, sandstones, quartzites, conglomerates, and amygdaloids, containing trap dykes, into large alluvial plains, from which here and there bold massive hills of amygdaloid and small peaks of quartz, granite and ironstone, around which soft calcareous slates often rise to the surface but never form hills much above the level of the