

REPORT
on
VISIT TO TEWKESBURY.
DISTRICT.

This visit was made as the result of an application by Mr. J. Crowe, Upper Burnie, who had prospected the district while receiving sustenance allowance.

The Tewkesbury district is situated some two miles north of Oonah and 14 miles south-west of Burnie. Access is gained by motor road from Burnie via Ridgley and Highclere.

The district represents a dissected basalt-covered plateau. The basalt formerly occupied the whole of the surface, but the streams have since corroded deep gorges and exposed in many places the underlying rocks. The basalt apparently flowed over a land surface comprising hills and valleys, filling the latter and overflowing the former. The thickness of the basalt, therefore, as seen in the gorges, has a considerable range, which in the Tewkesbury district would be from 200 to 500 feet.

In the valley of the Guide River old sedimentary rocks, slightly schistose in nature, are exposed. These rocks belong either to the Proterozoic or the Lower Palaeozoic systems.

In the valleys of St. Mary's River and Deacons Creek horizontally bedded pebbly mudstones occur. These belong to the Permo-Carboniferous system and are an extension of those occurring at Oonah (where they contain Tasmanite shale) and Hellyer Gorge to the south-west of the district.

River gravels and alluvium occur to a small extent in the present streams. The gravels contain pebbles of many rock types including quartz, quartzite, schist, granite, chert, breccias (from the Dundas series) etc.

Some of these pebbles have been shed from the Permo-Carboniferous mudstones, but the number and diversity of rock types suggest another source which is almost certainly gravels occurring below the basalt and possibly also interbedded with the basalt flows. This view is strengthened by the fact that gravels can be expected to occur in the valleys of the land surface which existed before the basalt flows. A further reason for the presence of gravels will be indicated below.

Mr. Crowe reported that as a result of his prospecting he was able to obtain alluvial gold in small quantities in the gravels along present streams but that it did not appear to be present in payable quantities. He further stated that the gold only appeared to be obtainable upon a soft mudstone bottom and in regions in which the pebbly mudstones occurred. Also it was stated that the conditions in the Deacons Creek area where he obtained some gold were similar to those in other areas, except that the pebbly mudstones did not occur there.

As the Deacons Creek area was the most accessible, it was therefore, examined. Mr. Crowe's contentions were not borne out in two respects viz.

- (1) Pebbly mudstones were found to occur in road cuttings.
- (2) The soft bottom was found to be composed of completely weathered basalt.

The presence of pebbly mudstones would appear to support the idea that the gold was being shed from such rocks, but this is not the case. These mudstones are of marine origin and laid down under conditions of moderate depth. The pebbles are relatively few in number and may have been dropped from floating ice. Such conditions are not favourable for the concentration of gold and it is improbable that the pebbly mudstones contain any gold. Their presence in a district where some gold is obtainable is purely accidental as they form a considerable portion of the country.

It is much more likely that the streams existing before the basalt flows traversed areas of older rocks (Lower Palaeozoic or Proterozoic slates, quartzites, sandstones, etc.) These rocks contain mineral deposits, gold-bearing quartz reefs etc. and no gold would be readily washed into the streams traversing them. The streams would in places flow off the older rocks onto the younger pebbly mudstones and gold would be contained in the gravels resting on the latter.

It is, therefore, my considered opinion that the gold in the Tewkesbury district has been shed from old stream gravels underlying and interbedded with the basalt flows. Similar conclusion was reached by A.M. Reid in 1929 when he examined the Seabrook Creek and Cam River district to the north of that under review.

Unfortunately the present stream gravels do not appear to contain gold in payable quantities. It is also probable that, although they are not exposed at present, the sub-basaltic gravels do not contain gold in payable quantities. Any further search should be devoted to areas in which the older rocks, rather than the pebbly mudstones, underlie the basalt.

(P.B. Nye)

GOVERNMENT GEOLOGIST.

Mines Department,
HOBART.

17/8/31