

In November, 1880, Mr. Cox, in a report on the North Auckland district, has the following notes on the Thames and Coromandel districts:—

“My special object in examining these districts was to trace the relations between the coal series, auriferous greenstone trachyte, and the Tertiary trachyte series of Beeson’s Island. I, however, also visited several of the mines both at the Thames and Coromandel. . . . At the Thames the relation between the two trachyte series are not quite so clear as at Coromandel, and again at Ohinemuri, but, all things taken together, I do not think there can be any doubt that the trachyte breccias, &c., are unconformably younger than the auriferous greenstone trachytes which occur throughout the district. The breccias are, moreover, younger than the coal series at Cabbage Bay resting upon them, but whether conformably or otherwise could not be determined here. Our knowledge of these breccia beds, however, in other localities, I think, warrants me in stating that they are unconformably younger than the coals.

[In the Ohinemuri district] “between Mackaytown and Owharoa the road goes over some hills, which I consider belong to the tuffaceous beds of the Tertiary age, and which are frequently breccias. As we descend the other side of the hill, however, a somewhat interesting section is seen, exposing black marls at places interstratified with tuffaceous beds, and at others included as large blocks in decomposed tuffaceous rocks. The black marls yield no sign of fossils, as far as I could make out, but they decompose to a light-brown marly clay, which occupies a good bit of country here. At Owharoa, the Radical is the only mine at present working, and the gold is being got out of thin leaders traversing a sort of decomposed trachyte-looking rock. The strike of these reefs is the same as the prevailing strike at the Thames—namely, north-east and south-west—and some very good gold is got here in patches, but the place appears to be almost abandoned now [1880].

“Between here and Waitekauri nothing of interest is to be seen, beyond what is described by Dr. Hector (Geological Reports, 1870–71, p. 100); but at Waitekauri a large reef, 25 ft. wide, that at the date of Dr. Hector’s visit had not been discovered, only leaders being then known, has since been found and worked, and is now abandoned by the original company. It is said to contain a few pennyweights of gold throughout the stone, but not sufficient to pay for crushing, and only the richer parts of the reef have been worked. This really means that it was worked as long as moderately rich quartz was to be got out easily, and then abandoned. It is at present worked to a small extent by tributers, but what is being done is of but little value in proving the reef. Coming back to Paeroa we took the track which had been specially made to the Waitekauri Diggings, and, as the low country is reached, most unmistakable instances of the Tertiary trachyte breccias lying unconformably on the auriferous diabase series are seen.

“At Coromandel a somewhat greater variety of rocks occur, the basement rocks of the series consisting of slates, which in many cases resemble in character those of the Te Anau series, but, so far as I have seen, do not appear to be interstratified with breccias as they are farther south. These slates occur at the Tiki, forming what is known as the Golden Belt. A battery has been erected on these slates, just below a waterfall, and a tramway and fluming brought in, a good deal of gold, I am informed, having been obtained in patches from this locality from time to time. At present this locality is entirely deserted, and I can only quote what I was told by miners concerning the former workings.

“After ascending the hill over the Golden Belt, and passing to the westward, decomposed tuffaceous rocks come in, and in these numerous short tunnels have been entered; but, as they do not appear to have been carried far, I do not imagine any very good results have been obtained. This belt of tuffaceous rocks probably extends to the Tokatea, and the same series extends to the Union Beach and Kapanga claims. The run of the auriferous country from the Union Beach to the Tokatea appears to be north and south, and the strike of the main reef, which is a very large one, is also north and south to north-east, with an underlie to the westward. Parallel to this, and in the direction of Kennedy Bay, a felsite dyke occurs, which also strikes north and south, but underlies to the east. The belt is very thick, very hard, and contains a large quantity of lime as calcite, and is also itself impregnated with lime. It is between these two—the reef and the dyke—that the greater quantity of the auriferous stone has been found, as small leaders that drop into the main reef.

“The main reef occurs in what the miners call a sandstone country, but which is really a decomposed volcanic rock; it has never as yet proved to be remunerative, but is reported to carry a few pennyweights of gold per ton. In this district, as at the Thames, it is in the more decomposed rocks that the payable gold appears to occur, and the only reason which suggests itself to me for this is that decomposition in rocks is very often due to the presence of iron-pyrites, which is liable to change; and Mr. Skey has shown that decomposing pyrites has the power of precipitating gold from solution.

“Round the flanks of these slates and older volcanic rocks the Tertiary breccias of Beeson’s Island flank, resting quite unconformably upon them, and indiscriminately upon each. They exactly correspond in character with the breccia beds of the Manukau Heads, being composed of a coarse volcanic agglomerate traversed by at least one dyke on Beeson’s Island, a dolerite dyke also occurring close to the Union Beach Claim, and probably running through these beds.

“In the direction of Cabbage Bay these breccias rest on the coal formation, which in turn rests unconformably upon the slates.” \*

The above extracts from the first report by Cox convey his impressions and conclusions at the time, but are not to be taken as final. The time devoted to an examination of the district was short, and the district examined is confessedly one of the most difficult and puzzling in New Zealand. In 1882, Mr. Cox made an extended and more complete examination of the different goldfields of

\* Geological Reports, 1881, pp. 36–41.