

of the Wanganui River I do not mean the immediate valley, or the water channel in which the river runs, but the low wide valley that has been scooped out of the plateau by the action of the river—in fact, the lower parts of its drainage area. At the same time, all unnecessary ascents on to the trachyte plateau should be avoided, as that trachyte and pumice country will never be reproductive—at any rate, not for a very long time.

1390. *Mr. Fergus.*] We have it in evidence that up in that district a considerable portion of the land consists of light soil on the top of pumice. It is not very deep to the pumice. And it is also a fact that a great deal of the land is covered with fern, which is burned. Suppose the fern is burned two or three times, would it absolutely destroy that soil?—It would be very difficult indeed to restore any nutritious matter in the soil. Then, again, all the rain that falls on such land as you refer to goes right down to an immense depth. Wherever you have pumice, the surface is full of large pot-holes, which go down to a very great depth, and the whole of the rain disappears, so that, although it may be really a wet country, it has all the appearance of being arid.

1391. Is it a very wet country?—My experience of it was that it is.

1392. Was it nearly as bad as Wellington?—I should think the rainfall, at equal altitudes, would be double that of Wellington. In Taranaki we know the rainfall is greater than that of Wellington (as 60 is to 45 inches).

1393. Do you think that in the valley of the Upper Wanganui the rainfall would be greater than what it is in Wellington?—I do not know that the rainfall would be greater, but the number of wet days would be more.

1394. And to the west of Taupo?—From what I have seen of the country, it has all the appearance of being a wet country, and even in summer a good deal of rain falls there.

1395. What would you indicate as the probably auriferous country there?—Between Tuhua and Rangitoto, if there is any, and from there to the Waikato; a line extending, you may say, from Tuhua to cut the Waikato at the gorge below Ngatemuri. It will be in that line of country, if any of those auriferous volcanic rocks occur, it is most likely to be. In the Waikato Valley itself there is some evidence of gold-bearing rocks.

1396. Schist rocks?—No; Thames rocks—volcanic rocks. Slate rocks are cut through by the Waikato River, just near Cambridge.

1397. Is there any schist there?—No; only one area of schist is known to me in the North Island—at the south-west end of the Kaimanawa range. It is a local patch of metamorphosed rock, just as we find such rocks at Terawhiti, and even on the road between here and the Hutt.

1398. Have you found any porphyries in that country?—At the Wairiri Falls on the Mokau. On the Kaimanawa Range there is undoubtedly gold, not in very large quantities, but still it is there. It occurs there in a line that extends from the Kaimanawa and strikes the Taupo Lake at the Tauranga-Taupo River (not the coast Tauranga). In the bed of the Tauranga there are very likely-looking rocks for gold, and among them porphyries.

1399. *Mr. Montgomery.*] Have you traversed the country between Marton and Murimotu?—Yes.

1400. Where it is proposed to run the railway-line?—I fancy I was one of the first to bring a horse over that way. I did it many years ago. I came down between the Rangitikei and Wangaehu. I think it was very nearly along the railway route that I came.

1401. Can you say, from your own observations, what the character of the soil is?—That it is all very good where the surface conformation is suitable.

1402. How far up from Marton is it good?—It is good, but not much of it, for half the distance.

1403. From Marton to Murimotu?—Yes. It is very good land in the valleys, but the ridges are very abrupt, and the hills are very steep; but after you get into the Murimotu country proper you have wide valleys, with low and flat limestone ranges. The first half from Marton and Murimotu is moderately-good country, but broken.

1404. And beyond that?—The valleys are wide and open, and I should say very good indeed—somewhat swampy—but that is all a matter of clearing out the watercourse; and the ridges are of a kind of marlstone rock—a clay marl. That brings you to the Murimotu country.

1405. What is it from there?—From there, as far as I know, it is low, good country.

1406. That in the Murimotu: you consider it good?—Yes; and from there I only know the line where you begin to ascend the spurs of Ruapehu and the central volcanic system, and that is worthless.

1407. You do not know how much that extends west?—No.

1408. From Ruapehu, then, along the line?—No; I know nothing of the Tuhua country.

1409. But from the dividing range?—It is heavily-timbered land.

1410. You spoke of a plateau reaching from the range downwards?—I do not think that that plateau above an altitude of, say, 1,800 would be worth much.

1411. But where it comes down to 685 feet?—That is off the poor trachyte plateau altogether.

1412. It is marked on the map at the plateau?—My idea of the plateau is the level of Opepe and all the surrounding country of Taupo Lake, averaging about 1,800 feet above the sea.

1413. Then, in point of fact, you do not know anything of the country south of the Mokau and Wanganui watershed?—No; until I come to Murimotu.

1414. Nor do you know it on the Stratford route?—No; I have only been up the rivers from the sea-coast.

1415. Is the geological map which you have produced drawn from your own observations?—No; I have incorporated everything on that. Mr. J. C. Crawford made a survey of all that country for the Provincial Government, and his reports give full information upon it. Dr. Hochstetter also made a traverse of that country.

1416. Do you think the map nearly indicates the quality of the soil—the geological formation?—It is not a soil map; that would be a separate affair. A map could be prepared showing the soil.

1417. *Mr. Larnach.*] How far have you been up the Stratford line?—Not at all.