

the coast range. Altogether I was about four weeks in examining this country. I travelled through it with Rewi and Wetere in 1878, and spent a good deal of the time on the Lower Mokau, trying to trace these coal measures as far as I could. The Mokau River is navigable for nearly twenty miles for small steamers. I took the "Hannah Mokau" up to within two miles of the coal, and we got out about five tons of coal although we had only rough tools—axes and such like—and put it on board, and she steamed to Auckland with it. The coal crops out in several points, and I traced it up as far as 370 feet above the river-level into the hills. The only reason that the steamer could not get right up to the coal is that there are a couple of snag falls; but these could be removed with ease, and then a steam-barge could easily go up. Above the point where the coal is the river becomes very shallow, and the whole of the ascent was by poling and canoes until we got out at Motukarama, in the open country of the Upper Mokau. I have been up the Mokatina and Tongopurutu. I went up the Mokatina as far as is was possible to go in a canoe, and then walked along the ranges, accompanied by Apiha. That country is very heavily timbered—a fine quality of bush, especially on the bluffs along the rivers; and on the ranges it is very difficult to travel on account of the steepness of the slopes, and also on account of the bush. All this country, of course, is north of what is called the White Bluff, which is formed by an outcrop on the sea-coast of the clay marls of the middle tertiary formation. This formation again appears on the south coast, and, in fact, forms north and south a ridge through the country.

1373. Is that what they call the papa rock?—They use papa rock for three different formations.

1374. *Mr. Larnach.*] Is papa rock a bastard limestone?—It is a clay or clay marl, usually very tough, and full of cement stone.

1375. *Mr. Fergus.*] What do they call that at Patea?—That is papa rock. The Mokau limestone rock does not appear on the south coast. It will be a most interesting point to trace where it crosses the dividing range, because it is underneath this formation where we must expect the coal measures to crop up, its relation to the coal being the same as those of the Cobden limestone to the Grey River coal seams. I expect that the coal measures, which are of the age of the upper chalk, will be cut off somewhere near the great bend of the Wanganui River. They certainly have a considerable development from the Mokau to the Kawhia Harbour, and from Mokau, Parerau, through to near the junction of the Ohura and Wanganui Rivers.

1376. What underlies that fossiliferous marl?—The only place where you can see it is at the White Cliffs. As you go north to the Mokau you get brown sandstone and splendid limestone full of small fragments of volcanic rock.

1377. *The Chairman.*] I gather from you that you have traversed the country pretty much along the Stratford route?—I have never been an inland route between Mount Egnont and Mokau; I have been on the coast only. I have very little doubt what that will turn out to be though, because during the past year we have got the section at Kawhia, and on the same line of strike we get one of the most splendid developments of the lower secondary series here. Dr. Hochstetter has evidently observed them, but did not put it on record in an explicit manner. There is a section showing about 20,000 feet in thickness from Albatross Point.

1378. *Mr. Larnach.*] Would that be indicative of good country?—It would be exactly analogous to the Hokonui down south—these runs of conglomerate and runs of calcareous sandstone; but the fossils and successions of strata are almost identical with the Hokonui.

1379. *The Chairman.*] My object in putting my question to you was to follow it up with another, as to whether you considered the bulk of this country which you have been describing as really fit for settlement?—In the whole of the country there are spots where settlers would thrive well; certainly the whole of the Mokau Valley and to the saddle on the Upper Waipa. The Maoris have very extensive and capital cultivations there now. The hills are limestone, and the timber would require to be taken off them.

1380. Both the Marton and Stratford lines would accommodate all that good country?—Either of them would do so.

1381. Which line would open up that country best, as far as you can tell?—It is a mere matter of levels crossing this range.

1382. But I mean the direction?—I do not think there is any difference.

1383. One line is equal to the other in that respect?—Yes.

1384. Do you know anything about the auriferous discoveries that have been made there?—Only rumours. There is no reason why there should not be patches of the same auriferous rock that you have at the Thames.

1385. What is the thickness of the seams of coal that have been discovered?—I produce a map showing the thicknesses in the Mokau district.

1386. But I mean in the neighbourhood of the Ohura?—It is not known.

1387. *Mr. Larnach.*] We have had evidence of a seam having been discovered there 98 feet thick?—It must have been measured lengthwise then. A seam a foot thick might make an overlap and deceive a person. I think a good workable seam of 6 feet could be got. There is also very good coal on the Little Waipa.

1388. *The Chairman.*] We want to know, Dr. Hector, which line would be likely to open up the best country and be of the greatest service, and also what is the general nature of the soil through which the two lines pass?—I fancy there would be more good soil up the Wanganui River, if the trachyte plateau is avoided. Ten miles to the eastward, out from Ruapehu and southward, the land is certainly worthless. Whether it is so ten miles to the west I cannot say, but I should judge it to be indifferent country for some distance at least.

1389. *Mr. Larnach.*] Could you give the Committee your opinion as to which direction a line would be of the most service, irrespective of levels or the utilizing of portions of existing lines? What line, in your opinion, would conduce to early settlement, and the greatest amount of settlement?—Any practicable line following the great Valley of the Wanganui. By the Valley