

say that I did not attempt to carry out that plan. As for the saddle into the Dart—assuming I am correct in taking the indentation marked on the map for the Dart Saddle—it is as bad as the other; and the rest of the dividing range, from Dart Saddle to the Ark, is a complete block—eternal snow and ice, 6,000ft. to 8,000ft. high. A road can be easily taken up the Arawata River to the Ten-Hour Gorge; but there it must stop until, by some convulsion of nature, the enormous rocks in that gorge have been somewhat sorted. Up the Waipara River a road can also be taken; but it will involve heavy work at some of the projecting cliffs.

GERHARD MUELLER, Chief Surveyor.

EXPLORATION OF THE SOUTHERN PORTION OF TAUTUKU FOREST

REPORT by District Surveyor JOHN STRAUCHON.

I HAVE the honour to forward herewith sketch of portion of Tautuku Bush, lying between the Waikawa River and north-east end of Tautuku Bay, which is as far as my recent survey extends.

A pioneer pack-horse track has also been cut through the bush between these points, and a traverse survey made of it. The bearings were taken with prismatic compass, and the distances measured with steel band. The total length of traverse is $18\frac{1}{4}$ miles, with a track from 6ft. to 10ft. The grades are, for the most part, very good, and could in several places be greatly improved should the advance of settlement require it. There is only one place of any length where the grades are really very bad, and that is a steep spur running down to Longbeach Creek from the westward. The length of the spur is nearly a mile, and it is in many places very steep, and would be difficult to improve. It is, however, the best obtainable thereabout. When a main dray-road is required it will have to pass considerably to the north of the present track, joining it just beyond Longbeach Creek.

Character of Land.—This is just like the general run of bush land in the Southland District, and is, on the whole, very fair. On the high ridges there is the usual heavy deposit of vegetable matter, of a dry, mossy nature; while on the lower slopes and valleys the soil is firm and good. Indeed, the various growths of timber indicate very clearly the changes in the soil. Where not too steep the ridges and valleys are suitable for settlement if opened up by good roads to convenient ports. The portions shown as open in the Longbeach and two Chasland valleys are covered with a very luxuriant and dense growth of snow-grass and scrub, and are almost impenetrable, no fires ever having been over them. Even the wild pigs do not root among it, preferring the more open bush. On account of this dense growth the ground appears wet and spongy now, but, if burned and exposed to sun and wind, would, I have no doubt, make good soil. There is also a considerable area in these valleys covered with light bush and scrub, which would be easily cleared. The large flats behind sandhills fronting Chasland and Tautuku Bays are unfortunately both very wet and mossy, would be difficult to drain, and lie very much in the way of direct communication with the upper portions of these valleys, especially of the East Chasland, which I consider the best.

Timber.—On the main ranges the principal kinds are large red birch and carmi, red pine, ironwood, broadleaf, and here and there a few black pines and totaras; the smaller woods and undergrowth being several kinds of broad-leaved gum, dogwood, and a great number of fern-trees, some of very large size. On the flats and lower spurs scrub, ribbonwood, manuka, and small straight birch abound, the two latter very suitable for fencing purposes. Here also the undergrowth consists of gum, dogwood, holly, akeake, veronica, and native broom. On the whole, the bush is not a very valuable one for sawmilling purposes, the trees suitable for that purpose being too much scattered about; and, indeed, red pine is the only variety found in quantity. In a good many places along the coast there are considerable areas with no large timber, but dense veronica and gum scrub, which would not be difficult to destroy; and the land is generally good.

Grasses.—Snow-grass and toitoi are the only kinds met with inland, while on the coast there is a good deal of wild parsley. At Tautuku, on the clear ground, English grasses and white clover grow luxuriantly. Maori cabbage, wild carrots and parsnips, and also potatoes, are growing all about, having doubtless been left there by the whalers years ago, and now gone wild. We dug up some of the potatoes, and found them very fair eating and a welcome change.

Rocks.—These belong to the sedimentary order of formation, being almost all either sandstone or conglomerate, chiefly the former.

Lignite.—We found traces of it only in one gully, between branches of the Chasland River, but did not discover the seam—only some fragments. No minute search, however, was made for it.

Gold was found, though not in payable quantities, at all the camps excepting Tautuku. No extended search was made for it anywhere; only a few prospects tried near camps at odd times.

Rivers.—There are none of any size except at their tidal estuaries.

Harbours.—Tautuku, Chasland, and Mark's bays would all afford good shelter to ships of any size from south-westerly weather, provided the bottom is suitable for anchorage. Of this I had no means of judging except by the sandy beaches, which in the two former extend to about two miles eastward from the respective points; while in the latter the sandy beaches are shorter and alternate with small rocky projections. The Admiralty charts of the coast would probably furnish the information as to anchorage. There are large estuaries at the mouths of Tautuku and Chasland rivers, up which, at high water, large whaleboats or surf-boats could convey cargo for probably a couple of miles inland. Having no boat, I could take no soundings, but the rise and fall of the tide are considerable, amounting probably to 6ft. or 8ft. Besides these bays there are numerous places