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## APPENDIX No. 3.

RECONNAISSANCE SURVEY OF THE HEAD-WATERS OF THE OKURU, ACTOR, AND BURKE RIVERS, WESTLAND.

On the 18th April last I left for the South by the steamship "Waipara," and landed at the Okuru River, from whence I purposed starting on my exploration journey. My object in undertaking the work was twofold—firstly, to complete the topographical survey of the head-waters of the three rivers, and fill up what was marked on our old maps as "unexplored country;" and, secondly, to settle the question about practicable passes from the coast into the Lake Wanaka country. In 1868, while surveying a township reserve at the mouth of the Okuru, a Maori known by the name of Wakatipu Jack made his appearance at my camp, stating that he had come across the Southern Alps (Dividing Range) somewhere at the head of the Okuru or one of its tributaries, and had travelled down that river to the west coast. Aware that there was no practicable pass known to exist in that part of the Dividing Range but the Haast Pass, and that the mountain-chain at the head of the Okuru, Turnbull, and Waiatoto was exceptionally high, I came, after severely cross-questioning the Maori, to the conclusion that he must be mistaken as to the route he camethat he somehow must have crossed at or near Haast Pass, and then afterwards found his way across some spur into the Okuru, and travelled down it to the coast. To this Maori incident I attached little value, and, indeed, it quite escaped my memory until, some four or five years ago, Mr. Roberts, the Assistant Geodesical Surveyor, while engaged at the trigonometrical survey of the Jackson's Bay circuit, reported to me that he had seen a low depression at the head of the Okuru from one of the highest inland trigonometrical stations of that district. The construction of the The construction of the Otago Central Railway to the Wanaka Lake, and its ultimate extension to the West Coast, was then greatly agitated, and I made up my mind to explore the Okuru head-waters as soon as I had an opportunity of doing so, with the view of ascertaining whether an easier route for a railway could not be found down the Okuru than the line proposed—namely, down the Haast Valley. The result of my exploration in this respect has been most satisfactory. A saving in construction of at least £120,000 would be effected, as I shall show further on, by taking the line down the Okuru instead of the Haast.

To return to the journey: For about thirteen miles up the Okuru I could take packhorses, and by crossing and recrossing, and slowly ploughing through heavy bush tracks cut by the lessee of the Okuru Run for the purpose of taking stock up and down the river, I reached Staircase Creek. From that point the swagging of camp-equipment and provisions had to be done on men's backs.

The Okuru River is very different from the other Jackson's Bay district rivers: it is well bounded, and its bed is defined and permanent. There are practically no sand-spits or shingle-flats to be found in this river. From the sea up through the first five or six miles of flat country the primeval forest is growing up to the water's edge, and there are no river-encroachments upon the adjoining lands, as are so common in all the other rivers, which, as a rule, swing from side to side, and not infrequently convert half a mile and more of good settlement-lands into absolute waste by stripping the vegetation and soil and changing the ground into barren shingle-beds. The Okuru has, as stated, a well-fixed, deep, and permanent bed, and at only three places along its whole length are its waters divided into two branches or arms, and these also are running in well-defined channels, and their banks do not show the slightest signs of encroachment.

From the point where the flat land ceases and the ranges close in upon the river (where the railway-crossing is marked on plan) up to Princess Creek—a distance of about fourteen miles—the good agricultural lands on the banks of the Okuru vary from twenty to sixty chains in depth, and in many cases the mountain-slopes are gentle enough to admit of their being cultivated. The soil is exceedingly good, generally of a brown chocolate colour, and varying in depth from 2ft. to 5ft. We found it advisable in travelling up to ford the river five or six times, in order to avoid climbing over or rounding small spurs projecting to the edge of the water; but there is really no difficulty in the way of taking a dray-road of easy grade up either bank of the Okuru.

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Before ascending to the head of the Okuru I examined the Actor River. With the intention of running out the Franklin Range to the head of the Actor, and returning by the Dividing Range and western slopes of Mount Salamis to the camp at the junction of the Okuru and Actor Rivers, I ascended Mount Glissa. After the second day's travelling along that range, however, I found myself stuck up at Howe's Knob by a tremendous gulch between it and Mount Franklin, and all

attempts to cross that were in vain.

The portion of the range between Mount Glissa and Howe's Knob is a most remarkable one. The slope towards the Actor, though very steep in most places, may be climbed almost anywhere; but on the west—the Okuru and Franklin Creek side—it drops down almost perpendicular from 1,500ft. to 2,000ft. On the slopes and on the top of Howe's Knob rocks of enormous size—many of them as large as an ordinary four-roomed cottage—are found covering the whole of the surface. Owing to this, travelling along the range was exceedingly difficult—it meant either risky jumping from rock to rock, or laborious crawling through the tough scrub growing between and under these masses of detached rock. The southern slopes of Mount Franklin, around by the two passes into the Turnbull and Young Rivers, and to opposite the two tarns shown on the west of Dragon Peak, below the dividing range, are very well grassed, and, though difficult of access now, will, I have no doubt, in years to come be put to profitable use as summer grazing-grounds. The pass into the Young River (a tributary of the Makarora) is too high to be ever of much use; the snow must, I believe, lie on it eight months out of the year.

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