on a tour round the world. On my return office-work detained me in Wellington till the 7th of the month. Since that date up to the very end of the season I have, save for two brief business visits to Wellington, been occupied in field operations in several parts of New Zealand, to be later detailed.

At the beginning of 1907 I was engaged in field-work, in company with Messrs. E. J. H. Webb, E. de C. Clarke, and K. M. Graham, in the Parapara Subdivision, Nelson. A bulletin on this interesting area, which contains extensive and valuable deposits of iron-ore, gold-bearing-quartz veins, and other minor deposits of economic value, was published in July, and presented to Parliament last session. Since the detailed description of the subdivision is given in that report, it will not be necessary for me to give further details here.

### Reconnaissance of the Landsborough and Karangarua Valleys.

*Narrative.*—From the 30th January to the 11th March, 1907, my time was employed in making a reconnaissance up the valleys of the Karangarua, Landsborough, and Twain rivers, in South Westland. My route from Nelson to the base of operations at Scott's Homestead, near the mouth of the Karangarua, was by coach through the Buller Gorge to Reefton, thence by rail to Hokitika, and onward by vehicle and on horseback down the Great South Road. From Scott's Homestead supplies and equipment were carried up the Karangarua on horseback as far as Cassell's Flat, some eleven miles above the mouth of the stream. From Scott's the route follows the north or right bank of the river, crossing to the left bank just below the mouth of the Copland. At Cassell's Flat we pitched a base camp, from which all supplies had to be carried on our backs.

A rough foot-track made by the Lands and Survey Department follows the left bank of the river from Cassell's Flat to the mouth of the Troyte Stream, which enters the Karangarua on the left side, some six miles above Cassell's Flat to a point just above the "Cataracts." The route follows the left branch of the stream; then it crosses and recrosses the river, taking advantage of flats on either side. Travelling is by no means easy—the fords are often deep, and the frequent smoothness of the rock renders jumping from boulder to boulder in the rapid stream precarious and often dangerous. Where the gorges occur advance is especially difficult. It is frequently necessary to leave the river-bed and make one's way as best one can along the steep and even precipitous slopes by clinging to the scant vegetation.

Above the Troyte the rough track ceases, but travelling from this point to Karangarua Saddle, a distance of some three miles and a half, is not very difficult. The river has frequently to be crossed, and in places it is necessary to take to the thick and matted bush, though scrambling over the huge boulders in the river-bed is generally preferable to that operation.

Being delayed by rainy weather, we had to pitch three temporary camps before reaching Karangarua Pass, over which we crossed into the McKerrow Glacier valley on the 13th February. Karangarua Pass has an altitude of a little over 5,000 ft., and is nearly always free from snow at midsummer. The descent from the Karangarua Pass to the smooth surface of the McKerrow Glacier, first down a short arête and then down a snow slope, presents no difficulty.

Continuing up the McKerrow Glacier from Karangarua Pass we crossed over Douglas Pass, and descended into Fitzgerald Flat on the northern side of the pass. Douglas Pass, which is somewhat higher in altitude than Karangarua Pass, is well snow-covered. The short descent to the McKerrow from Douglas Pass, down a smooth slope, is easy, but the much longer descent to Fitzgerald Flat, down very steep grass slopes, after traversing the gradually sloping snow-patches near the summit of the pass, is attendant with some danger.

Fitzgerald Flat is a stretch of gravel a little over a mile in length, and rather less than half a mile in width. At the north-western corner of the flat, at an altitude of some 4,500 ft., we found a sheltered place for a camp on a tussocky spot beneath the high lateral moraines of the Douglas Glacier. Here, with sufficient mountain dracophyllum for firewood, there was a convenient base for exploring the valley portion of the Douglas Glacier, the Twain Valley beyond, and the wonderful Douglas Ice-fall.

On the 15th February we left Fitzgerald Flat in a fine rain, and, recrossing Douglas Pass, descended the McKerrow Glacier to the Landsborough. About two miles below the frontal face of the McKerrow we found a good camping-place on a terrace on the southern side of the stream. For several miles below the McKerrow Glacier there is no large timber, but almost everywhere there is enough small scrub for firewood. Our explorations extended down the Landsborough as far as the entrance of the Fettes Glacier, or about five miles below the frontal face of the McKerrow. In addition, an examination was made of the Le Blanc Glacier, one of the main tributaries of the Upper Landsborough. An unsuccessful attempt was made to cross from the Landsborough Valley to the Mueller Glacier, but, owing to the thick weather prevailing during our entire stay in the Landsborough country, we chose a route to Canterbury by the Le Blanc Glacier, instead of the Spence, which is apparently that tributary of the Landsborough which heads with the Mueller. The Le Blanc led us to a lofty col over 7,000 ft. high, but on our arrival at that point, which we have named Stradbroke Pass, we beheld far beneath us, in the blizzard raging at the time, not the smooth upper snow of the Mueller, but, flanked by snow slopes and precipices, the rocky bottom of a tributary of the Dobson.

Travelling in the Upper Landsborough Valley is rendered somewhat difficult by the numerous large glacial streams which have to be forded in ascending or descending the river. The absence of flats along the river offers no change from the monotony of scrambling over the large boulders which fill the river-bottom.