the southern boundary another chain in width has been scrubbed; also about 15 acres on the south-east corner; but the burning has not been done in season, and undergrowth is again showing through, making the work of burning a difficulty, especially if left till the weather breaks. Trees planted last season have been considerably destroyed by rabbits—fully one-third of the total number having succumbed by having their bark peeled. Larch, Austrian pines, and beech seem to be the most affected. The oaks, ash, and chestnuts are overgrown, crowded, nursery stock, 6 ft. to 8 ft. high, and of crooked growth, and stunted. Red-birch are healthy, but have been planted too close to allow of anything like full development. This tree is also unsuitable for low-lying retentive soil. Totaras are doing very well, but have been planted like the other trees, with mathematical accuracy as to distance apart, irrespective of proximity to stumps or logs. I am not aware of any trees of true totara having been seen south of Tautuku River. Recommendations: A competent nurseryman should be placed in charge at the earliest possible opportunity; the scrub already cut on southern boundary and on south-west corner should be burnt at once; logs on either side of boundary-fence should be removed to safe distance and burnt; scrub-cutting should be discontinued until winter; temporary netting fence ought to be erected along inside line of trees, and around clearing on south-west corner; a small portion same—say, ¼ acre—should be mock-trenched for lining-out of young trees to be planted permanently next autumn, thereby reducing risk of transplantation to a minimum, besides stimulating the production of fibrous roots by removal; oaks, ash, and chestnuts might be headed down in early spring, and the strongest shoot left for leader; weeds and underscrub must be kept clear of all trees; pits should be made as soon as possible for autumn planting of trees: this will allow the soil to sweeten before coming in contact with the roots; creeks and low-lying places ought to be cleared of *débris*, and drains cut to prevent stagnation during winter. Further netting used should be 42 by 16 by 1½, as per instructions from Surveyor-General. I shall be glad to furnish you with a list of suitable trees obtainable, and prices of same, should you desire it."

D. Barron, Commissioner of Crown Lands.

APPENDIX No. 11.—EXPLORATIONS.

MOUNT RUAPEHU.

For more than a month I watched for a good opportunity to ascend Ruapehu, and, the fog at last clearing off, we left for a camp at head of the Manga-toetoe-nui, and ascended the mountain next day. First we went up the Manga-toetoe-nui, then along the watershed between it and the Wangaehu, and then, for the last 1,500 ft., up the northern glacier. This glacier was, of course, full of many and deep crevasses, containing many chambers and caverns of large size and great beauty—those to the right opening out into the Manga-toto, and those to the left into the Wangaehu, being all interlaced together. It was therefore necessary to travel backwards and forwards, in order to jump them. As we ascended, the smell of sulphur became noticeable, and when we reached the plateau was very strong indeed. This plateau, on top of Ruapehu, about a mile wide, contained a lot of vertical holes, as if gigantic earthworms had been at work, which I attribute to a recent escape of steam, probably during the choking-up of Te Mari (mentioned below).

The mass of ejecta upon which the trig. is placed rises about 200 ft. above the plateau, and was quite bare of snow. Steam, however, issued from many crevices in it, and the rock was quite warm in places; and stones kept falling off on to the plateau. Having ascended this mound, we looked right down into the crater lake, which was all boiling up, and of a yellowy-blue colour, somewhat similar to a sulphur flame. The dark-coloured steam crept round and round the edge with a loud, hissing sound, and, suddenly rushing into the centre, rose in vast columns, and completely hid our view to the eastward.

Having erected a new trig. on the old site, and built a cairn, we went down to get a closer view of the lake. The fluid was only about 25 ft. below the eastern margin of the crater, and must have recently overflowed, as the Wangaehu Glacier was all coloured yellow. As the old trig. did not overlook the Rangipo country, we crossed to another peak, and while erecting a station there, a loud explosion took place in the crater, and the mountain trembled. We could not, however, investigate this, as we were now surrounded by fog and had to consider our return. It was rather difficult crossing the crevasses in the semi-darkness, but luckily when some way down the glacier we found our footmarks of the morning, and arrived in camp all right.

After another long period of rain and fog, the mountains again became clear; and we then went up to Tongariro. On ascending, we gave Te Mari—from which dense columns of steam were arising—a wide berth; but after erecting the trig, we decided to visit the crater. As we approached northward from Tongariro we found the ground full of holes, like a sponge, from which steam had evidently been recently pouring out, lifting out rocks, &c. We descended until we stood right over Te Mari crater, and as it has, I believe, altered since the late eruption, I will describe it as it appeared to me. First, there was a large funnel-shaped crater, from which dense volumes of steam and some smoke rolled up. Immediately to the north of this was a large vertical steam hole, thudding and hissing with deafening noice, and throwing a large column of steam hundreds of feet into the air, far surpassing in force and size anything I have seen in the Hot Springs district. To the right or east was a huge rent in the hill, from which several columns of steam arose, and to the left was an immense pile of *débris*, ash, and burning sulphur, while to the north of all was a deep sulphur lagoon; the whole surpassing in grandeur anything I have ever seen. Attacked by vertigo and sickness we could not stay half long enough to admire it, and had to hasten on to fresher air.